

TITLE 8

**STREET AND DRAINAGE
DESIGN STANDARDS**

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STREET AND DRAINAGE DESIGN STANDARDS

Chapters:

- 8.02 Design Standards of all Streets and related Storm Water Drainage, including Subdivisions**
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Chapter 8.02

DESIGN STANDARDS OF ALL STREETS AND RELATED STORM WATER DRAINAGE, INCLUDING SUBDIVISIONS

Sections:

- 8.02.010 Town Acceptance of Streets
- 8.02.020 Industrial/Commercial or Residential Standards Considerations
- 8.02.030 Standards
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- 8.02.120 Water and sewer line placement
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8.02.010 Town Acceptance of Streets. Any person requesting the Town to accept and maintain a street or related storm water drainage infrastructure as part of the Town's system of streets must comply with the provisions of this Chapter. Additionally, the provisions of this Chapter must be agreed to and met by any person seeking approval of a subdivision plat pursuant to Chapter 7.24 of the Municipal Code. To that extent, this Chapter shall control, and any provision of Chapter 7.24 in conflict herewith is hereby repealed. Provided, however, that the provisions of this Chapter shall not apply to any street under substantial construction as of October 26, 1993. All other streets, prior to acceptance by the Town, must meet the provisions of this Chapter, including streets constructed in previously platted areas. (Ord. 93-14, S1, March 8, 1994)

8.02.020 Industrial/Commercial or Residential Standards Considerations. The Town Council shall determine on a case-by-case basis whether the Industrial/Commercial or Residential standards are applicable. The Council shall consider all relevant facts, including but not limited to:

- (1) Existing and intended zoning classification;
- (2) Existing and intended use of the property; and

- (3) Existing and anticipated traffic volume and patterns. (Ord. 93-14, S2, March 8, 1994)

8.020.030 Standards. The following standards are applicable to all streets:

- (1) Minimum street width shall be twelve feet (12') of surface on each side of the center line;
- (2) Maximum street width shall be eighteen feet (18') of surface on each side of the center line;
- (3) All streets shall have a base of #53 rock;
- (4) All streets shall be graded and surfaced as required herein to the satisfaction of the Town's Street Commissioner;
- (5) The arrangement, character, extent, width, grade, and location of all streets shall be correlated to existing topography, existing streets, public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such streets. To this end:
 - A. The street layout shall provide access to all lots or parcels of land within a platted subdivision or a planned development;
 - B. Proposed streets shall be adjusted to the contour of the land so as to produce usable lots and streets of reasonable gradient;
 - C. Certain streets, where appropriate, shall be extended so as to provide for normal circulation of traffic within the vicinity.
- (6) Minimum centerline vertical grade shall be 0.5%;
- (7) Minimum centerline radius shall be seventy-five feet (75');
- (8) Minimum angle of intersecting street shall be seventy degrees (70°);
- (9) Street intersection property line corners shall be rounded by an arc of twenty feet (20');
- (10) Minimum centerline offset of adjacent street intersections (street jogs) shall be one hundred twenty-five feet (125');
- (11) Clear visibility for a minimum of two hundred feet (200') measured along the centerline of the street on a plane four feet (4') above the street grade;
- (12) Constructed with either asphalt or concrete as provided for herein;

- (13) Minimum fifty feet (50') of street, drainage, utility easement, right-of-way.
- (14) The pavement of a turning circle at the end of a cul-de-sac street shall have a minimum right of way or outside diameter of 68' or a turn radius of 34' measured from the center of the turning circle with an additional allowance of two (2) feet for the curbing, all in order to allow sufficient turn-around space for trash-trucks and other municipal vehicles. (Ord. O-2007-04, S1, Mar. 20, 2007) (Ord. 93-14, S3, March 8, 1994)

8.02.040 Industrial/Commercial Street Standards. The following standards are applicable to streets designated Industrial/Commercial:

- (1) Asphalt Construction -
 - A. Minimum of eight inches (8") of compacted aggregate base, compacted with at least an eight (8) ton roller;
 - B. Minimum of three inches (3") of hot asphaltic base course and minimum of one inch (1") hot asphaltic surface course;
 - C. Minimum of two foot (2') wide shoulder on each side of street constructed of #53 rock.
- (2) Concrete Construction -
 - A. Minimum eight inches (8") thick six (6) bag Portland concrete street with reinforcement;
 - B. Concrete at 4,000 psi strength, air content to be 6% + or - 1%, concrete placement at a maximum of 4 1/2" slump;
 - C. Sub-base to be compacted to 95% density;
 - D. Minimum of four inches (4") compacted aggregate, placed over the sub-base, provided sub-base acceptable to visual and proof-rolling, and compacted with at least an eight (8) ton roller;
 - E. Longitudinal joint placement shall be every twelve feet (12') and dowelled. Joints across the concrete pavement to be skewed and placed every twelve feet (12'). (Ord. 93-14, S4, March 8, 1994)

8.02.050 Residential Street Standards. The following standards are applicable to streets designated Residential:

- (1) Asphalt Construction -
 - A. Minimum of six inches (6") of compacted aggregate base, compacted with at least an eight (8) ton roller;
 - B. Minimum of two inches (2") of hot asphaltic base course and minimum of one inch (1") hot asphaltic surface course.
 - C. Minimum of two foot (2') wide shoulder on each side of street constructed of #53 rock.
- (2) Concrete Construction -
 - A. Minimum five inches (5") thick six (6) bag Portland concrete street with reinforcement;
 - B. Concrete at 4,000 psi strength, air content to be 6% + or - 1%, concrete placement at a maximum of 4 1/2" slump;
 - C. Sub-base to be compacted to a 95% density;
 - D. Minimum of four inches (4") compacted aggregate, placed over the sub-base, provided sub-base acceptable to visual and proof-rolling, and compacted with at least an eight (8) ton roller;
 - E. Longitudinal joint placement shall be every ten feet (10') and dowelled. Joints across the concrete pavement to be skewed and placed every ten feet (10');
- (3) All streets shall have two feet (2') wide curb on each side of the street surface. (Ord. 93-14, S5, March 8, 1994)

8.02.060 Storm Water Drainage System of Streets. All streets shall be required to have an adequate storm water drainage system. To this end, whenever open ditches or swales are not appropriate, one of the following improvements shall be constructed to facilitate drainage, and in all cases, to insure suitable entrances for private driveways intersecting with the street. (Ord. 93-14, S6, March 8, 1994)

8.02.070 Private Driveway Standards. The following standards are applicable with respect to private driveways:

- (1) Minimum of twenty feet (20') of twelve inch (12") reinforced concrete tile shall be used;

- (2) Such tile shall be installed using crushed stone, gravel, or compacted soil backfill material as an envelope with compaction of backfill in six inch (6") layers under the haunches, around the sides, and above the tile with a minimum of six inches (6") of cover. (Ord. 93-14, S7, March 8, 1994)

8.02.075 Driveway Standards.

- (1) The minimum distance of driveways and parking lot entrances to the intersection at a street corner shall be twenty-five (25) feet. This requirement shall be included in the restrictive covenants contained in the plat of the subdivision.
- (2) Driveways within the corporate limits of the Town of Ferdinand shall be designed and constructed in accordance with the following additional standards:
 - A. Separation. The edge of a driveway shall have not less than the following minimum separation distances from the following uses:
 1. Twenty-five feet to the right-of-way lines of intersecting streets or alleys.
 2. Four feet to another curb opening.
 3. Two feet to a property line.
 - B. Width. Width shall be not less than 12 feet, but not more than 25 feet for properties without a garage, with a carport, or with a standard one or two car garage; and not more than 30 feet for driveways accessing a three car garage; and not more than 40 feet for driveways accessing a four car garage.
 - C. Construction. All residential driveways intersecting a street or alley shall have a hard surface of concrete, asphalt, solid brick pavers, or other similar impervious material approved by the Street Superintendent. The hard surface shall extend a minimum of ten feet from such intersection. Construction shall be in accordance with the standards established by the Town of Ferdinand. An application to build or replace curb and gutter must be made on a form similar to the attached Exhibit A and be approved before any such work shall commence. An application to build or replace a driveway must be made on a form similar to the attached Exhibit B and be approved before any such work shall commence.
- (3) Driveways located outside the corporate limits of the Town of Ferdinand shall be constructed in accordance with the standards of the Dubois County Highway Department. (Ord. 2007-10, S1, July 10, 2007) (O-2007-04, S3, Mar. 20, 2007)

EXHIBIT A

TOWN OF FERDINAND
CURB & GUTTER PERMIT APPLICATION

APPLICANT'S NAME _____ DATE _____

ADDRESS _____ PHONE _____

JOB ADDRESS _____ PERMIT NO. _____

A) Application is hereby made to build or replace curb & gutter at the address listed above. Before work starts, this application must be approved by the Town of Ferdinand Street Superintendent under whose supervision all work is to be performed. Work must conform to Americans With Disabilities Act provisions.

B) Indiana law requires the applicant to notify Underground Plant Protection Service before any digging takes place in a public right-of-way or easement. Notification must be given to 1-800-382-5544 at least two (2) working days prior to digging.

C) Curb & gutter is NEW-REPLACEMENT RESIDENTIAL-COMMERCIAL (circle as appropriate).

D) Curb & gutter length in feet _____

E) Curb & gutter includes a driveway cut YES NO (circle one)

A driveway or sidewalk permit may also be required if yes.

F) Curb & gutter design ROLLED COMBINED OTHER (circle one – see back side)

G) Contractor's name _____ Phone _____

Address _____ City _____

Contractor must have liability/property damage Certificate of Insurance on file with the Town before work begins.

H) Applicant agrees to furnish and place required pedestrian and vehicular safety devices during construction and to comply with the provisions above.

Applicant's Signature

APPROVED – Street Superintendent Signature
Ferdinand Street Department
533 W. 5th Street
P.O. Box 7
Ferdinand, IN 47532
(812) 367-2282

Date

EXHIBIT B

TOWN OF FERDINAND DRIVEWAY PERMIT APPLICATION

APPLICANT'S NAME _____ DATE _____

ADDRESS _____ PHONE _____

JOB ADDRESS _____ PERMIT NO. _____

.....
A) Application is hereby made to build or replace a driveway at the address listed above. Before work starts, this application must be approved by the Town of Ferdinand Street Superintendent under whose supervision all work is to be performed. Work must conform to Americans With Disabilities Act provisions.

B) Indiana law requires the applicant to notify Underground Plant Protection Service before any digging takes place in a public right-of-way or easement. Notification must be given to 1-800-382-5544 at least two (2) working days prior to digging.

C) If sidewalk is affected it is NEW REPLACEMENT (circle one)

D) Affected sidewalk length in feet _____ width in feet (nnn, four feet) _____
Sidewalk modifications require a sidewalk permit.

E) Driveway is NEW-REPLACEMENT RESIDENTIAL-COMMERCIAL (circle as appropriate)

F) Driveway width in feet (residential minimum of twelve feet-maximum twenty-four feet) _____
(commercial minimum of twelve feet-maximum of forty feet) _____

G) Driveway construction material (circle one) CONCRETE ASPHALT
Minimum residential requirements - One (1) inch bituminous surface over two (2) inches bituminous base over three (3) inches of compacted aggregate OR four (4) inches of reinforced concrete over three (3) inches of compacted aggregate. Minimum commercial requirements - One (1) inch bituminous surface over three (3) inches bituminous base over six (6) inches of compacted aggregate OR six (6) inches of reinforced concrete over six (6) inches of compacted aggregate.

H) Driveway must be designed utilizing hard surface materials (concrete or asphalt) extending from the curb line for a minimum distance of: 1) ten (10) feet, or 2) five (5) feet past the new or existing sidewalk whichever is greater.

I) Driveway must not be closer than twenty-five (25) feet to an intersection and separated from any other opening in the curb by a minimum of four (4) feet. Additional site specific requirements, including drainage and curb 86 gutter, may be required by the Street Superintendent.

J) _____ Contractor's name _____ Phone _____

Address _____ City _____

Contractor must have liability/property damage Certificate of Insurance on file with the Town before work begins.

K) Applicant agrees to furnish and place required pedestrian and vehicular safety devices during construction and to comply with the provisions above.

CAUTION TO ALL APPLICANTS: Driveway permits will be issued in reliance upon information provided by applicant at the time of application. It is the responsibility of the applicant to stake off the areas indicated in the application. The issuance of a permit should not be construed as the Town's opinion as to or verification of the location of property lines. The Town of Ferdinand is not responsible for verifying the accuracy of the location of property lines through the use of surveys or otherwise. Applicants are strongly urged to have their property surveyed before applying for a permit or commencing construction.

The undersigned: (1) agrees that the driveway will be constructed in all respects in accordance with the plans and specifications submitted herewith and in accordance with all applicable provisions of the Ferdinand Municipal code; (2) acknowledges that the provisions and regulations of said ordinances and/or codes pertaining to such construction govern and shall be followed; (3) certifies that he/she has read and examined this application and knows the same to be true and correct; (4) understands granting of a permit does not presume to give authority to violate or cancel the provisions of any other State or local law regulating construction or the performance of construction; and (5) understands that this is an application for a permit and does not grant authority to construct a driveway until such time as the permit has been approved and issued.

Applicant's Signature

APPROVED — Street Superintendent Signature
Ferdinand Street Department
533 W. 5th Street, P.O. Box 7
Ferdinand, IN 47532
(812) 367-2282

Date

8.02.080 Roadside Drainage Standards where Open Ditches or Swales are not appropriate. The following standards are applicable with respect to roadside drainage systems where open ditches or swales are not appropriate:

- (1) Minimum of twelve inch (12") reinforced concrete tile; or
- (2) Indiana Department of Transportation approved (N-12) polyethylene pipe with smooth interior wall at least twelve inches (12") inside diameter, with the following installation requirements: Crushed stone, gravel, or compacted soil backfill shall be used as an envelope material. Compaction of backfill shall be in six inch (6") layers under the haunches, around the sides, and above the pipe with a minimum of twelve inches (12") of cover;
- (3) When a cross-structure (pipe or conduit) for storm water drainage under and crossing the roadway is needed, it shall be at a minimum, a reinforced concrete tile with the following installation requirements: Crushed stone or gravel backfilled and compacted under the haunches, around the sides, and above the tile in six inch (6") layers. (Ord. 93-14, S8, March 8, 1994)

8.02.090 Drainage Pipe in excess of 12" diameter - Additional Cost Responsibility. When requested by the Town's Street Superintendent or when needed and approved by the Superintendent, the Town shall be responsible for the additional cost of drainage conduit (pipe) in excess of twelve inches (12") in diameter. (Ord. 93-14, S9, March 8, 1994)

8.02.100 Unlawful to Fill or Block Drainage Ditches. No person shall fill or otherwise block roadside drainage ditches. (Ord. 93-14, S10, March 8, 1994)

8.02.105 Unlawful Mowing, Blowing, and Raking onto Streets

- (1) Public Nuisance. It shall be unlawful for the owner of any real estate within the jurisdictional limits of the Town of Ferdinand to mow or blow grass or rake or blow leaves directly on to any street or toward any related storm water drainage infrastructure or mow or blow grass or rake or blow leaves in such a manner that the grass or leaves blow onto the street or related storm water drainage infrastructure. Such unlawful mowing, blowing or raking is hereby declared to be a nuisance and detrimental to the health and safety to the citizens of the Town of Ferdinand. Provided however that the Town Council shall allow leaves to be raked into streets from time to time in order to facilitate collection of leaves using the Town's leaf vacuum. Such time periods shall only be as specifically provided for by the Town Council. (Ord. 03-01, S1, Feb. 12, 2003) (Ord. 01-6, S8.02.105(1), May 9, 2001)
- (2) Liability. The owner of the real estate where unlawful mowing, blowing or raking in violation of this Ordinance occurs shall be prima facie liable for the violation of this Ordinance. (Ord. 01-6, S8.02.105(2), May 9, 2001)

- (3) Charge for Violation. Any person violating any provision of this Ordinance by failing, neglecting or refusing to comply with the provisions of this Ordinance shall be guilty of a municipal ordinance violation punishable by a fine of not less than Ten Dollars (\$ 10.00), for each violation. A separate violation shall be deemed committed on each day during or on which a violation occurs or continues. (Ord. 01-6, S8.02.105(3), May 9, 2001)
- (4) Enforcement. All violations of this Section shall be issued in writing upon the violator, if known, on an "Official Citation" form in essential conformity with the form attached hereto as Appendix A. A copy of the citation shall be filed with the Town's Ordinance Violations Clerk. (Ord. 01-6, S8.02.105(4), May 9, 2001)
- (5) Payment to Ordinance Violation Clerk. Said monies shall be paid to the Town's Violations Clerk at the Town Hall, who shall issue a receipt in duplicate to the violator. (Ord. 01-6, S8.02.105(5), May 9, 2001)
- (6) Recovery of Expenses. The Town may collect in addition to any monies owed to the Town pursuant to Ordinance, all costs and attorney fees incurred to enforce this Ordinance (Section) or to defend the Town regarding any suits brought against the Town in connection with action taken by the Town pursuant thereto. (Ord. 01-6, S8.02.105(6), May 9, 2001)
- (7) Validity and Effective Date. If any provision of this Ordinance or the application thereof is held invalid, the invalidity shall not affect other provisions to application of this Ordinance which can be given affect without the invalid provision or application, and to this end, the provisions of this Ordinance are declared severable. This Ordinance shall be in full force and effect from and after its passage and publication as required by law. (Ord. 01-6, S8.02.105(7), May 9, 2001)

APPENDIX A

TOWN OF FERDINAND DRAINAGE OBSTRUCTION CONTROL OFFICIAL CITATION

	<u>Indicate</u>	<u>Amount of Fine</u>
1. Mowing grass onto street		
2. Blowing grass onto street		
3. Raking leaves onto street		
4. Blowing leaves onto street		
5. Other obstruction of roadside drainage facilities		

6. Enforcement Officer _____

7. Violator _____

(Ord. 01-6, Appendix A, May 9, 2001)

8.02.110 Catch Basins. If catch basins are used to facilitate drainage, these basins shall be manufactured and installed so as to remove surface drainage in a manner satisfactory to the Street Superintendent. At a minimum, these catch basins shall be installed every one hundred feet (100') and shall meet the following minimum requirements:

- (1) Basin to be at least six inches (6") lower than side of road;
- (2) Basins may be either:
 - A. Poured in place;
 - B. Pre-cast as per State specifications/standards;
 - C. Masonry.
- (3) Poured or pre-cast basin standards are as follows:
 - A. Walls shall be constructed of six inches (6") reinforced concrete in width. Reinforcement shall be at a minimum of #5 bar placed vertically every twelve inches (12");

- B. The floor of the catch basin shall be a minimum six inches (6") thick reinforced concrete with #5 bar every twelve inches (12"). Portland cement shall be a minimum of 5 1/2 bag mix per cubic yard with a minimum 3500 psi.
- (4) Masonry basins shall be constructed with:
- A. Minimum of six inch (6") base;
 - B. Eight inch (8") solid block walls;
 - C. Parge (seal) all joints inside and outside.
- (5) Surface of catch basin shall be constructed to accommodate a steel grate cover consisting of, at a minimum, 2 pieces of one and one-half inch (1 1/2") angle iron one-eighth inch (1/8") in thickness and one inch (1") in diameter reinforcement bars spaced at no greater than one inch (1") apart. The catch basin grate shall be installed flush with the concrete surface of the catch basin to facilitate surface water flow to the basin inlet itself. (Ord. 93-14, S11, March 8, 1994)

8.02.120 Water and Sewer Line Placement. Water and sewer lines must be placed within fifty foot (50') easement, right-of-way behind the curb where curbs are to be installed or outside of the street pavement width when curb is not provided. (Ord. 93-14, S12, March 8, 1994)

8.02.130 Hardship. Where the Town Council finds that hardships may result from strict compliance with this Chapter, it may vary or modify the requirements so that substantial justice may be done and the public interest served. (Ord. 93-14, S13, March 8, 1994)

Chapter 8.10

STORM DRAINAGE CONTROL

Sections:

- 8.10.010 Purpose
- 8.10.020 Conflicting Ordinances
- 8.10.030 Compliance with Other Ordinances
- 8.10.040 Definitions
- 8.10.050 Storm Water Control Policy
- 8.10.060 Information Requirements
- 8.10.070 Construction and Materials
- 8.10.080 Storm Water Detention
- 8.10.090 Changes in Plan
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Appendix B

TR55 Method of Computing tc

Appendix C

Stormwater Detention Facility Information Form

8.10.010 Purpose.

It is recognized that smaller streams and drainage channels serving the Town of Ferdinand may not have sufficient capacity to receive and convey storm water runoff, resulting when land use changes from open or agricultural use to a more urbanized use. It is further recognized that deposits of sediment from developments during and after construction can reduce capacities of storm sewers and drainage systems and result in damages to receiving lakes and streams.

Therefore, it shall be the policy of Town of Ferdinand and its Area Plan Commission that the storage and controlled release of storm water runoff shall be required of all new development, any redevelopment and other new construction in the jurisdictional territory of the Town of Ferdinand. The release rate of storm water from developed lands shall not exceed the release rate from the land area in its present land use.

Because topography and the availability and adequacy of outlets for storm runoff vary with almost every site, the requirements for storm drainage tend to be an individual matter for any project. It is recommended that each proposed project be discussed with the Planning Commission office at the earliest practical time in the planning stage (Ord. 02-6, SI, Apr. 10, 2002)

8.10.020 Conflicting Ordinances.

The provisions of this ordinance shall be deemed as additional requirements to minimum standards required by other ordinances of the Town. In the case of conflicting requirements, the most restrictive shall apply. (Ord. 02-6, SII, Apr. 10, 2002)

8.10.030 Compliance With Other Ordinances.

In addition to the requirements of this ordinance, compliance with the requirements set forth in other applicable ordinances with respect to submission and approval of preliminary and final subdivision plats, improvement plans, building and zoning permits, construction inspections, appeals, and similar matters, and compliance with applicable State of Indiana statutes and regulations shall be required. (Ord. 02-6, SIII, Apr. 10, 2002)

8.10.040 Definitions.

For the purpose of this ordinance, the following definitions shall apply:

- (1) Board - The Ferdinand Area Plan Commission, and any subordinate employee to whom it shall specifically delegate a responsibility authorized by this ordinance.
- (2) Capacity of a Storm Drainage Facility - The maximum flow that can be conveyed or stored by a storm drainage facility without causing damage to public or private property.

- (3) Channel - A natural or artificial watercourse which periodically or continuously contains moving water, or which forms a connecting link between two bodies of water. It has a defined bed and banks which serve to confine the water.
- (4) Compensatory Storage - An artificial volume of storage within a flood plain used to balance the loss of natural flood storage capacity when artificial fill or structures are placed within the floodplain.
- (5) Contiguous - Adjoining or in actual contact with.
- (6) Culvert - A closed conduit used for the passage of surface drainage water under a roadway, railroad, canal, or other impediment.
- (7) Detention Basin - A facility constructed or modified to restrict the flow of storm water to a prescribed maximum rate, and to detain concurrently the excess waters that accumulate behind the outlet.
- (8) Detention Storage - The temporary detaining or storage of storm water in storage (detention) basins, on rooftops, in streets, parking lots, school yards, parks, open spaces, or other areas under predetermined and controlled conditions, with the rate of drainage therefrom regulated by appropriately installed devices.
- (9) Drainage Area - The area from which water is carried off by a drainage system; a watershed or catchment area.
- (10) Drop Manhole - A manhole having a vertical drop pipe connecting the inlet pipe to the outlet pipe. The vertical drop pipe shall be located immediately outside the manhole.
- (11) Dry Bottom Detention Basin - A basin designed to be completely dewatered after having provided its planned detention of runoff during a storm event.
- (12) Duration - The time period of a rainfall event.
- (13) Erosion - Wearing away of the land by running water, waves, temperature changes, ice or wind.
- (14) Flood Elevation - The elevation at all locations delineating the maximum level of high waters for a flood of given return period and rainfall duration.
- (15) Flood or Flood Waters - The water of any watercourse which is above the banks of the watercourse. It also means the water of any lake which is above and outside the banks thereof.
- (16) Flood Hazard Area - Any flood plain, floodway, floodway fringe, or any combination thereof which is subject to inundation by the regulatory flood;

or any flood plain as delineated by Zone A on a Flood Hazard Boundary Map.

- (17) Flood Plain - The area adjoining the river and stream which has been or may hereafter be covered by floodwaters.
- (18) Flood Protection Grade - The elevation of the lowest floor of a building. If a basement is included, the basement floor is considered the lowest floor.
- (19) Floodway - See Regulatory Floodway.
- (20) Floodway Fringe - That portion of the flood plain lying outside the floodway, which is inundated by the regulatory flood.
- (21) Footing Drain - A drain pipe installed around the exterior of a basement wall foundation to relieve water pressure caused by high groundwater elevation.
- (22) Grade - The inclination or slope of a channel, canal, conduit, etc., or natural ground surface usually expressed in terms of the percentage the vertical rise (or fall) bears to the corresponding horizontal distance.
- (23) Impact Areas - Areas defined and mapped by the Board which are unlikely to be easily drained because of one or more factors including but not limited to any of the following: soil type, topography, land where there is not an adequate outlet, a floodway or floodplain, land within 75 feet of each bank of any regulated drain or within 75 feet from the centerline of any regulated tile ditch.
- (24) A. Impervious - A term applied to material through which water cannot pass, or through which water passes with difficulty.

B. Semi-Impervious - A term applied to material which, over time, is susceptible of becoming impervious because it will or may be compacted by the weight, degree, type, or frequency of traffic, to a sufficient extent as to limit or restrict the ability of the material to allow water to pass through it.
- (25) Inlet - An opening into a storm sewer system for the entrance of surface storm water runoff, more completely described as a storm sewer inlet.
- (26) Junction Chamber - A converging section of conduit, usually large enough for a person to enter, used to facilitate the flow from one or more conduits into a main conduit.
- (27) Lateral Storm Sewer - A sewer that has inlets connected to it but has no other storm sewer connected.
- (28) Manhole - Storm sewer structure through which a person may enter to gain access to all underground storm sewer or enclosed structure.

- (29) Major Drainage System - Drainage systems carrying runoff from an area of one or more square miles.
- (30) Minor Drainage Systems - Drainage systems having an area of less than one square mile.
- (31) Off-Site - Everything not on site.
- (32) On-Site - Located within the controlled area where runoff originates.
- (33) Outfall - The point or location where storm runoff discharges from a sewer or drain. Also applies to the outfall sewer or channel which carries the storm runoff to the point of outfall.
- (34) Peak Flow - The maximum rate of flow of water at a given point in a channel or conduit resulting from a particular storm or flood.
- (35) Radius of Curvature - Length of radius of a circle used to define a curve.
- (36) Rainfall Intensity - The cumulative depth of rainfall occurring over a given duration, normally expressed in inches per hour.
- (37) Reach - Any length of river, channel or storm sewer.
- (38) Regulated Area - All of the land under the jurisdiction of the Town of Ferdinand.
- (39) Regulatory Flood - The flood having a peak discharge which can be equaled or exceeded on the average of once in a twenty-five (25) year period, as calculated by a method and procedure which is acceptable to the Board. If a permit from the National Resources Commission for construction in the floodway is required (See Section 8.10.060), then the regulatory flood peak discharge should be calculated by a method acceptable to the Board and the Natural Resources Commission. This regulatory flood is equivalent to a flood having a probability of occurrence of four percent (4%) in any given year.
- (40) Regulatory Floodway - The channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to carry and discharge the peak flow of the regulatory flood of any river or stream.
- (41) Release Rate - The amount of storm water released from a storm water control facility per unit of time.
- (42) Return Period - The average interval of time within which a given rainfall event will be equaled or exceeded once. A flood having a return period of 25

years has a four percent probability of being equaled or exceeded in any one year.

- (43) Runoff Coefficient - A decimal fraction relating the amount of rain which appears as runoff and reaches the storm drainage system to the total amount of rain falling. A coefficient of 0.5 implies that 50 percent of the rain falling on a given surface appears as storm water runoff.
- (44) Sediment - Material of soil and rock origin, transported, carried or deposited by water.
- (45) Siphon - A closed conduit or portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through a conduit. An inverted siphon is used to carry storm water flow under an obstruction such as a sanitary sewer.
- (46) Spillway - A waterway in or about a hydraulic structure, for the escape of excess water.
- (47) Stilling Basin - A basin used to slow water down or dissipate its energy.
- (48) Storage Duration - The length of time that water may be stored in any storm water control facility, computed from the time water first begins to be stored.
- (49) Storm Sewer - A closed conduit for conveying collected storm water.
- (50) Storm Water Drainage System - All means, natural or man-made, used for conducting storm water to, through or from a drainage area to any of the following: conduits and appurtenant features, canals, channels, ditches, streams, culverts, streets and pumping stations.
- (51) Storm Water Runoff - The water derived from rains falling within a tributary basin, flowing over the surface of the ground or collected in channels or conduits.
- (52) Tributary - Contributing storm water from upstream land areas.
- (53) Urbanization - The development, change, or improvement of any parcel of land consisting of one or more lots for residential, commercial, industrial, institutional, recreational or public utility purposes.
- (54) Watercourse - Any river, stream, creek, brook, branch, natural or man-made drainageway in or into which storm water runoff or floodwaters flow either regularly or intermittently.
- (55) Watershed - See Drainage Area.

- (56) Wet Bottom Detention Basin (Retention Basin) - A basin designed to retain a permanent pool of water after having provided its planned detention of runoff during a storm event. (Ord. 14-16, S1A, Sept. 9, 2014) (Ord. 02-6, SIV, Apr. 10, 2002)

8.10.050 Storm Water Control Policy.

It is recognized that the smaller streams and drainage channels serving the Town of Ferdinand may not have sufficient capacity to receive and convey storm water runoff resulting from continued urbanization. Accordingly, the storage and controlled release rate of excess storm water runoff shall be required for any development, redevelopment and new construction located within the jurisdictional territory of the Town of Ferdinand.

Possible exceptions to the requirements are residential or commercial developments that increase the impervious or semi-impervious surfaces by less than 10,000 square feet (0.23 acres); industrial developments that consist of an increase in the area of hard surface (impervious or semi-impervious) less than 5,000 feet; or individual residential structures to be constructed on lots situated within existing platted additions and/or subdivisions, or on unplatted tracts. These projects may be exempt from this ordinance, but must submit, in addition to a location improvement permit, an engineering scaled plot plan showing the entire property, the proposed improvements, the existing drainage breaks and flow direction and the proposed drainage breaks and flow directions. The plot plan shall be submitted along with the building permit for the proposed improvement.

Notwithstanding the provisions that residential or commercial developments that increase the impervious or semi-impervious surfaces by less than 10,000 square feet (0.23 acre) and Industrial developments that consist of an increase in area of less than 5,000 square feet of hard surface (as defined herein) are exempt, all developments in all zoning districts shall comply with and be subject to the strict requirements of this ordinance, without exemption, if and when the cumulative increase of the impervious or semi-impervious surfaces initiated in any five (5) year period after the original effective date of the Town's Stormwater Control Ordinance (April 10, 2002) is, in the aggregate, 10,000 square feet or greater for residential or commercial developments or is, in the aggregate, 5,000 square feet or greater for industrial developments.

For all developments not qualifying as an exemption, the release rate of storm water from development, redevelopments, and new construction may not exceed the storm water runoff from the land area in its present state of development. The developer must submit to the Board, detailed computations of runoff before and after development, redevelopment or new construction which demonstrate that runoff will not be increased or, as the case may be, the materials used will not become impervious or semi-impervious.

These computations must show that the peak runoff rate after development for the 25 year return period storm of critical duration must not exceed the 10 year return period predevelopment peak runoff rate. The critical duration storm is that storm duration that requires the greatest detention storage.

Computations for areas up to and including 200 acres may be based on the Rational Method; typical runoff coefficients are listed herein. For areas larger than 200 acres, hydrograph techniques and/or computer drainage modeling methods shall be used. Hydrograph techniques and computer modeling methods used to determine storm water runoff shall be proven methods, subject to approval of the Board.

Any development requiring less than 500 CF storage volume, as evidenced by acceptable calculations, shall not be required to provide storm water storage.

The Board reserves the right to consider the future impact that a development may have on the release of storm water over time (example: situations where materials used in the development become impervious or semi-impervious over time due to the weight of traffic traveling upon it or the degree of traffic traveling upon it) and the cumulative increase over a five year period in order to prevent piecemeal type developments, expansions, and paving regardless of whether the intention of such smaller expansions was to avoid the requirements of this ordinance. (Ord. 2019-02, S8.10.050, Mar. 21, 2019) (Ord. 14-16, S1B, Sept. 9, 2014) (Ord. 02-6, SV, Apr. 10, 20020

8.10.060 Information Requirements of Storm Drainage Ordinance.

The following information and data provided by an Indiana licensed professional engineer or land surveyor engaged in storm drainage design shall be submitted to the Board at the time of application for a building permit for any development, redevelopment or new construction on real estate which lies within the Regulated Area.

- (1) Topographic and Soils Maps. A soils map of the proposed development indicating soils names and their hydrologic classification must be provided when Soil Conservation Service (SCS) hydrologic methods are used. In addition, a topographic map of the land to be Subdivided and such adjoining land whose topography may affect the layout or drainage of the development must be provided. The contour intervals shall be one foot when slopes are less than four percent and shall be two feet when the slope exceeds four percent. On this map, the following shall be shown:
 - A. The location of streams and other flood water runoff channels, the extent of the floodplains at the established 100 year flood elevation where available (regulatory floodway), and the limits of the floodway, all properly identified.
 - B. The normal shoreline of lakes, ponds, swamps and detention basins, their floodplains, and lines of inflow and outflow if any.
 - C. The location of regulated (legal) drains, farm drains, inlets and outfalls, if any of record.
 - D. Storm, sanitary and combined sewers and outfalls, if any of record.
 - E. Septic tank systems and outlets, if any of record.

- F. Seeps, springs, flowing and other wells, that are visible or of record.
- (2) Preliminary Drainage Plan. A comprehensive plan, in preliminary form (or in combined preliminary and final form), designed to handle safely the storm water runoff and to detain the increased storm water runoff must be provided. The plan shall provide or be accompanied by maps or other descriptive materials indicating the feasibility of the drainage plan and showing the following:
- A. The extent and area of such watershed affecting the design of detention facilities as shown on USGS Quadrangle Maps or other more detailed maps as required by the Board.
 - B. The preliminary layout and design of proposed storm sewers, the outfall and outlet locations and approximate elevations of the receiving stream or channel.
 - C. The location and design of the proposed street system.
 - D. The locations and profiles of existing streams and floodplains to be maintained, and new channels to be constructed.
 - E. The materials, elevations, waterway openings, and the basis for design of proposed culverts and bridges.
 - F. Existing detention ponds and basins to be maintained, enlarged, or otherwise altered and new ponds or basins to be built and the basis of their design.
 - G. The estimated depth and amount of storage required in the new ponds or basins.
 - H. The estimated location and percentage of impervious surfaces existing and expected to be constructed when the development is completed.
- (3) Valley Cross Section: One or more typical cross sections must be provided showing all existing and proposed channels.
- (4) Site Plan: A plan drawn to scale showing dimensions of the site with existing and proposed storm drainage facilities must be provided.
- (5) Final Drainage Plans: Upon approval of the preliminary drainage plans by the Board, final drainage plans shall be submitted to the Board. The final plans shall provided or be accompanied by calculations, maps and/or other descriptive material showing the following:

- A. The extent and area of each watershed tributary to the drainage channels in the development.
 - B. The street storm sewers and other storm drains to be built, the basis of their design, outfall and outlet locations and elevations and the receiving stream or channel.
 - C. The parts of the proposed street system where pavements are planned to be depressed sufficiently to convey or temporarily store overflow from storm sewers and over the curb runoff resulting from the heavier rainstorms and the outlets for such overflow.
 - D. Existing streams and floodplains to be maintained, and new channels to be constructed, their locations, cross sections and profiles.
 - E. Proposed culverts and bridges to be built, their materials, elevations, waterway openings and basis of their design.
 - F. Existing detention basins and ponds to be maintained, enlarged, or otherwise altered and new basins or ponds to be built and the basis of their design.
 - G. The estimated location and percentage of impervious surfaces existing and expected to be constructed when the development is completed.
 - H. The slope, type and size of all sewers and other waterways.
 - I. For all detention basins, a plot or tabulation of storage volumes with corresponding water surface elevations and a plot or tabulation of the basin outflow rates for those water surface elevations.
- (6) Submittal and Consideration of Plans. Preliminary and final drainage plans and/or construction plans shall be submitted to the Board twenty (20) days prior to their regularly scheduled meeting. A storm water permit review fee shall also be submitted to the Board along with the preliminary drainage and/or construction plans. The amount of the permit review fee shall be established by the Board on an annual basis. The permit review fee will be used to cover the cost incurred by the Board in review of all storm water drainage and/or construction plans, review of all hydraulic calculations, and review of computer models for compliance with this Ordinance. All preliminary plans, final plans and/or construction plans in compliance with the standards of this ordinance shall be approved by the Board. The Board shall stamp such approval on a copy of such plans and deliver the same to the applicant. The Board shall approve or disapprove any preliminary plans, final plans and/or construction plans within sixty (60) days of submission unless the applicant consents to a continuance or extension. All approvals

and disapprovals with written reasons shall be incorporated into the Board minutes. (Ord. 02-6, SVI, Apr. 10, 2002)

- (7) Permit Review Fee. Any person desiring storm water approval shall pay a permit review fee payable to the Town and delivered to the Secretary of the Ferdinand Plan Commission at the time the plan review is requested. The permit review fee required shall be as specified below:

<u>SIZE</u>	<u>LEE</u>
Up to one (1) acre	\$ 150.00
One acre or more up to ten 10 acres	200.00
Ten acres or larger	250.00

(Ord. 13-07, S1, May 14, 2013) (Ord. 02-6, Fee Schedule, Apr. 10, 2002)

8.10.070 Construction and Materials.

- (1) Construction. Specifications shall be in keeping with the current standards of engineering practice and shall describe the requirements for proper installation of the project to achieve its intended purpose.
- (2) Materials. Materials shall comply with the latest edition of the Indiana Department of Transportation's "Standard Specifications". (Ord. 02-6, SVII, Apr. 10, 2002)

8.10.080 Storm Water Detention.

The following shall govern the design of any improvement with respect to the detention of storm water runoff.

- (1) Acceptable Detention Methods. The increased storm water runoff resulting from a proposed development should be detained on-site by the provisions of appropriate wet or dry bottom reservoirs (basins), by storage on flat roofs, parking lots, streets, lawns, or other acceptable techniques. Measures which retard the rate of overland flow and the velocity in runoff channels shall also be used to control the runoff rate partially. Detention basins shall be sized to store excess flows from storms with a twenty-five (25) year return period. Control devices shall limit the discharge to a rate no greater than that prescribed by this ordinance.
- (2) Design Storm. Design of storm water detention facilities shall be based on a return period of once in 25 years. The storage volume and outflow rate shall be sufficient to handle storm water runoff from a critical duration storm.
- (3) Allowable Release Rate. The allowable release rate of storm water originating from a proposed development shall not exceed the amount specified in Section 8.10.050 - Storm Water Control Policy.

- (4) Determination of Storage Volume - Rational Method. For areas of two hundred (200) acres or less, the Rational Method may be used to determine the required volume of storm water storage. The following eleven step procedure may be used to determine the required volume of storage. Table 6 in Appendix A shall be used to compute the required storage volume. Other design methods may also be used, subject to approval of the Board.

Steps

Procedure

- A. Determine total drainage area in acres "A".
- B. Determine composite runoff coefficient "C_u" based on existing land use (undeveloped).
- C. Determine time of concentration "t_c" in minutes based on existing conditions using the TR55 method (See Appendix B).
- D. Determine rainfall intensity "I_u" in inches per hour, based on time of concentration and using data given in Table 3 for the ten (10) year return period.
- E. Compute runoff based on existing land use (undeveloped), and ten (10) year return period:

$$Q_u = C_u I_u A$$

- F. Determine composite runoff coefficient "C_d" based on developed conditions and a twenty-five (25) year return period.
- G. Determine the twenty-five (25) year return period rainfall intensity "I_d" for various storm durations "t_d" for the developed area using Table 3 (See Appendix A).
- H. Determine developed inflow rates "Q_d" for various storm durations "t_d", measured in hours.

$$Q_d = C_d I_d A$$

- I. Compute a storage rate "S_{td}" for various storm durations "t_d" until a peak storage volume is determined.

$$S_{td} = Q_d - Q_u$$

- J. Compute required storage volume "S_R" in acre-feet for each storm duration "t_d". This assumes a triangular hydrograph of duration (2*t_d) hours with the peak flow of S_{td} at t_d hours.

$$S_R = S_{td} (t_d/12)$$

- K. Select the largest storage volume computed in step J for detention basin design.
- (5) Determination of Storage Volume - Other Methods. Methods other than the rational method for determining runoff and routing of storm water may be used to determine the storage volume required to control storm water runoff. The procedures or methods used must receive the prior approval of the Board.
- (6) General Detention Basin Design Requirements. Basins shall be constructed to detain temporarily the storm water runoff which exceeds the maximum peak flow rate authorized by this Ordinance. The volume of storage provided in these basins, together with such storage as may be authorized in other on-site facilities shall be sufficient to control excess runoff from the twenty-five (25) year storm. The following design principles shall be observed:
- A. The maximum volume of water stored and subsequently released at the design release rate shall not result in a storage duration in excess of 24 hours unless additional storms occur within the period.
 - B. The maximum planned depth of storm water stored (without a permanent pool) shall not exceed six feet.
 - C. All storm water detention facilities shall be separated by not less than 10 feet from any building or structure to be occupied.
 - D. Slopes no steeper than 3 horizontal to 1 vertical for safety, erosion control, stability and ease of maintenance shall be permitted on mowable grass slopes. Steeper slopes are permitted provided the slopes are made stable with appropriate cover materials.
 - E. Safety screens having a maximum opening of 4 inches shall be provided for any pipe or opening to prevent children or large animals from crawling into the structures.
 - F. Emergency overflow facilities such as a weir or spillway shall be provided for the release of exceptional storm runoffs or in emergency conditions should the normal discharge devices become totally or partially inoperative. The overflow facility shall be of such design that its operation is automatic and does not require manual attention.
 - G. For mowable detention basins, grass or other suitable vegetative cover shall be provided throughout the entire basin area. Grass should be cut regularly.

- H. Stormwater detention can be provided below ground in storm water piping or in approved below grade stormwater structures. Above grade detention facilities can be constructed of other materials provided the above-grade structure and materials receive prior approval from the Board.
 - I. Debris and trash removal and other necessary maintenance shall be performed on a regular basis to assure continued operation in conformance to design.
- (7) Facility Financial Responsibility. The construction cost of storm water control systems and facilities as required by this ordinance shall be accepted as part of the cost of land development. If general public use of the facility can be demonstrated, negotiations for public participation in the cost of such development may be considered.
- (8) Facility Maintenance Responsibility. Maintenance of detention/ retention facilities during construction and thereafter, shall be the responsibility of the land developer/owner. Assignment of responsibility for maintaining facilities serving more than one lot or holding shall be documented by appropriate covenants to property deeds, unless responsibility is formally accepted by a public body, and shall be determined before the final drainage plans are approved. The developer/owner shall complete the upper portion of the Stormwater Detention Facility Annual Inspection Form (Inspection Report) when the Final Drainage Plans are submitted. In the event that the ownership changes or any of the contact information appearing on the upper portion of the Stormwater Detention Facility Information Form (Inspection Report) changes, the Town must be notified within seven (7) days.

Stormwater detention and retention basins may be donated to the Town of Ferdinand for ownership and permanent maintenance provided that:

- A. The Town is willing to accept responsibility.
 - B. The facility has been designed and constructed according to all applicable provisions of this ordinance.
 - C. All improvements have been constructed, approved and accepted by the Town for the land area served by the drainage basin.
- (9) Inspections. All public and privately owned detention storage facilities will be inspected by representatives of the Town of Ferdinand once every year. The Stormwater Detention Facility Information Form (Inspection Report) shall be completed by the Town representative (FORM LOCATED IN APPENDIX C). Inspection reports shall be kept on file for at least 6 years and shall be retained with the records of the Town of Ferdinand Street Department, or such other designee of the Town of Ferdinand.

- (10) **Corrective Measures.** If deficiencies are found by the inspector, the owner of the detention/retention facility will be required to take the necessary measures to correct such deficiencies within 14 days of notification. If the owner fails to correct the deficiencies within the 14 day period, the Town of Ferdinand will issue a fine of \$200/day for each day out of compliance and, if necessary, may undertake the work and collect from the owner using lien rights.
- (11) **Joint Development of Control Systems.** Storm water control systems may be planned and constructed jointly by two or more developers as long as compliance with this Ordinance is maintained.
- (12) **Installation of Control Systems.** Runoff and erosion control systems shall be installed as soon as possible during the course of site development. Detention/retention basins shall be designed with an additional (10) percent of available capacity to allow for sediment accumulation resulting from development and to permit the pond to function for reasonable periods between cleanings. Basins should be designed to collect sediment and debris in specific locations so that removal costs are kept to a minimum. (Ord. 2015-04, S1A, March 10, 2015) (Ord. 13-07, S1, May 14, 2013) (Ord. 02-6, SVIII, Apr. 10, 2002)

8.10.090 Changes in Plan.

Any revision, significant change or deviation in the detailed plans and specifications after formal approval by the APC shall be filed in duplicate with and approved by the APC or its designee prior to implementation of the revision or change. Copies of the revisions or changes, if approved, shall be attached to the original plans and specifications. (Ord. 02-6, SIX, Apr. 10, 2002)

8.10.100 Determination of Impact Drainage Areas.

The APC is authorized, but is not required to classify certain geographical areas as Impact Drainage Areas and to enact and promulgate regulations which are generally applied. In determining Impact Drainage Areas, the APC shall consider such factors as topography, soil type, capacity of existing regulated drains and distance from adequate drainage facility. The following areas shall be designated as Impact Drainage Areas, unless good reason for not including them is presented to the Drainage Board.

- (1) A floodway or floodplain as designated by the Indiana Department of Natural Resources.
- (2) Land within 75 feet of each bank of any regulated drain.
- (3) Land within 75 feet of the centerline of any regulated drain tile.

Land where there is not an adequate outlet, taking into consideration the capacity and depth of the outlet, may be designated as an Impact Drainage Area by resolution of the Board.

Special requirements for development within any Impact Drainage Area shall be included in the resolution. (Ord. 02-6, SX, Apr. 10,2002)

8.10.110 Disclaimer of Liability.

The degree of protection required by this ordinance is considered reasonable for regulatory purposes and is based on historical records, engineering and scientific methods of study. Larger storms may occur or storm water runoff depths may be increased by man-made or natural causes. This ordinance does not imply that land uses permitted will be free from storm water damage. This ordinance shall not create liability on the part of the Town of Ferdinand or any officer or employee thereof for any damage which may result from reliance on this ordinance or on any administrative decision lawfully made thereunder. (Ord. 02-6, SXI, Apr. 10, 2002)

8.10.120 Corrective Action.

Nothing herein contained shall prevent Town of Ferdinand from taking such other lawful action as may be necessary to prevent or remedy any violation. All costs connected therewith shall accrue to the person or persons responsible. (Ord. 02-6, SXII, Apr. 10,2002)

8.10.130 Repealer.

All ordinances or parts thereof in conflict with the provisions of this ordinance are repealed. (Ord. 02-6, SXIII, Apr. 10, 2002)

8.10.140 When Effective.

This ordinance shall become effective after its final passage, approval and publication as required by law. (Ord. 02-6, SXIV, Apr. 10, 2002)

8.10.150 Exempt Projects.

Any residential, commercial or industrial subdivision (major or minor) or construction project thereon, which has had its drainage plan approved by the Board prior to the effective date of this ordinance shall be exempt from all of the requirements of this ordinance. (Ord. 02-6, SXV, Apr. 10, 2002)

8.10.160 Variances, Waivers or Modifications.

The Area Plan Commission reserves the discretionary right to grant variances from; waivers of; and modifications of the Storm Water Control Ordinance as it pertains to a specific project. The Area Plan Commission shall hear and approve or deny any such request for a variance, waiver or modification of or from the terms of the Storm Water Control Ordinance and may impose reasonable conditions as a part of its approval. A variance may be approved only upon a determination in writing that:

- (1) The approval will not be injurious to the public health, safety, morals, and general welfare of the community.

- (2) The use and value of the area adjacent to the property included in the variance will not be affected in a substantially adverse manner;
 - (3) The need for the variance arises from some condition peculiar to the property involved;
 - (4) The strict application of the terms of the ordinance will constitute an unnecessary hardship if applied to the property for which the variance is sought;
 - (5) The approval does not interfere substantially with the comprehensive plan; and
 - (6) The adjacent affected property owners have been notified in writing of the variance request by the persons seeking the variance.
- A. Hardship. Where the Area Plan Commission finds that hardships may result from strict compliance with the Storm Water Control Ordinance, it may vary, waive, or modify the requirements so that substantial justice may be done and the public interest served.
 - B. Conditions. In granting variances, waivers and modifications, the Area Plan Commission may require such conditions as will, in its judgment, secure substantially the objectives of the standards or requirements so varied or modified.
 - C. Procedure. No request for a variance, waiver or modification to or from the express terms of the Storm Water Control Ordinance shall be acted upon until the applicant has filed with the Area Plan Commission a certification of substantial conformity with the Storm Water Control Ordinance and has filed, published and served on affected property owners a petition requesting a variance/waiver or modification of a specific portion of the Storm Water Control Ordinance. (Ord. 02-6, SXVI, Apr. 10,2002)

Chapter 8.10

APPENDIX A

Chapter 8.10

TABLE 1
Urban Runoff Coefficients

Type of Surface	Runoff Coefficient "C"
Asphalt	0.90
Concrete	0.90
Roof	0.90
Lawns (Sandy)	
Flat (0-2% Slope)	0.10
Rolling (2-7% Slope)	0.15
Steep (greater than 7%)	0.20
Lawns (Clay)	
Flat (0-2% Slope)	0.15
Rolling (2-7% Slope)	0.20
Steep (greater than 7%)	0.30

The coefficients of these tabulations are applicable to storms of 5 to 10 year frequencies. Coefficients for less frequent higher intensity storms shall be modified as follows:

<u>Return Period (yrs)</u>	<u>Multiply "C" by</u>
25	1.1
50	1.2
100	1.25

(Ord. 02-6, Appendix A, TABLE 1, Apr. 10, 2002)

Chapter 8.10

TABLE 1A
Rural Runoff Coefficients (1)

Type of Surface	Runoff Coefficient "C"
Woodland (Sandy)	
Flat (0-5% Slope)	0.10
Rolling (5-10% Slope)	0.25
Steep (greater than 10%)	0.30
Woodland (Clay)	
Flat	0.30
Rolling	0.35
Steep	0.50
Pasture (Sandy)	
Flat	0.10
Rolling	0.16
Steep	0.22
Pasture (Clay)	
Flat	0.30
Rolling	0.36
Steep	0.42
Cultivated (Sandy)	
Flat	0.30
Rolling	0.40
Steep	0.52
Cultivated (Clay)	
Flat	0.50
Rolling	0.60
Steep	0.72

The coefficients of this tabulation are applicable to storms of 5 to 10 year frequencies. Coefficients for less frequent higher intensity storms shall be modified as follows:

<u>Return Period (yrs)</u>	<u>Multiply "C" by</u>
25	1.1
50	1.2
100	1.25

(1) From Ordinance 81-16, Tippecanoe County, Indiana, A General Ordinance Establishing Storm Drainage and Sediment Control, November 1981.

(Ord. 02-6, Appendix A, TABLE 1A, Apr. 10, 2002)

TABLE 2

Runoff Coefficients "C" By Land Use (1)

LAND USE	Runoff Coefficients		
	Flat	Rolling	Steep
Commercial (CBD)	0.75	0.83	0.91
Commercial (Neighborhood)	0.54	0.60	0.66
Industrial	0.63	0.70	0.77
Garden Apartments	0.54	0.60	0.66
Churches	0.54	0.60	0.66
Schools	0.31	0.35	0.39
Semi Detached Residential	0.45	0.50	0.55
Detached Residential	0.40	0.45	0.50
Quarter Acre Lots	0.36	0.40	0.44
Half Acre Lots	0.31	0.35	0.39
Parkland	0.18	0.20	0.22

1. Flat terrain 0-2% slopes
2. Rolling terrain 2-7% slopes
3. Steep terrain greater than 7% slopes
4. Interpolation, extrapolation and adjustment for local conditions shall be based on engineering experience and judgment.
5. The coefficients of this tabulation are applicable to storms of 5 to 10 year frequencies. Coefficients for less frequent higher intensity storms shall be modified as follow:

Return Period	Multiply "C" by
25	1.1
50	1.2
100	1.25

- (1) From Ordinance 81-16, Tippecanoe County, Indiana, A General Ordinance Establishing Storm Drainage and Sediment Control, November 1981.

(Ord. 02-6, Appendix A, TABLE 2, Apr. 10, 2002)

Chapter 8.10

TABLE 3

RAINFALL INTENSITY-DURATION-FREQUENCY TABLE FOR EVANSVILLE

		INTENSITY IN INCHES PER HOUR				
STORM DURATION		STORM RETURN PERIOD IN YEARS				
		5	10	25	50	100
5	MIN	6.063	6.625	7.200	7.936	8.469
10	MIN	4.863	5.380	5.925	6.616	7.126
15	MIN	4.029	4.515	5.033	5.697	6.194
30	MIN	2.837	3.226	3.646	4.194	4.608
60	MIN	1.549	1.819	2.078	2.412	2.663
2.0	HRS	1.053	1.230	1.400	1.620	1.785
3.0	HRS	0.774	0.899	1.019	1.175	1.291
4.0	HRS	0.632	0.736	0.836	0.965	1.062
5.0	HRS	0.524	0.606	0.684	0.785	0.861
6.0	HRS	0.453	0.522	0.589	0.676	0.741
7.0	HRS	0.399	0.459	0.516	0.591	0.647
8.0	HRS	0.358	0.412	0.463	0.530	0.581
9.0	HRS	0.323	0.370	0.415	0.472	0.516
10	HRS	0.297	0.339	0.379	0.431	0.470
11	HRS	0.276	0.314	0.351	0.399	0.435
12	HRS	0.259	0.296	0.331	0.376	0.410
13	HRS	0.245	0.280	0.314	0.357	0.390
14	HRS	0.233	0.267	0.299	0.341	0.372
15	HRS	0.220	0.252	0.281	0.320	0.349
16	HRS	0.209	0.238	0.266	0.302	0.329
17	HRS	0.198	0.225	0.251	0.284	0.310

(Ord. 02-6, Appendix A, TABLE 3, Apr. 10, 2002)

TABLE 3 ; Continued:

RAINFALL INTENSITY - DURATION - FREQUENCY TABLE

STORM DURATION		INTENSITY IN INCHES PER HOUR				
		STORM RETURN PERIOD IN YEARS				
		5	10	25	50	100
18	HRS	0.189	0.215	0.240	0.272	0.296
19	HRS	0.181	0.206	0.229	0.260	0.282
20	HRS	0.175	0.199	0.222	0.251	0.273
21	HRS	0.169	0.193	0.215	0.244	0.266
22	HRS	0.164	0.187	0.208	0.236	0.257
23	HRS	0.160	0.181	0.202	0.229	0.250
24	HRS	0.154	0.174	0.194	0.219	0.239
25	HRS	0.149	0.168	0.187	0.212	0.230
26	HRS	0.143	0.162	0.180	0.204	0.221
27	HRS	0.139	0.156	0.174	0.196	0.212
28	HRS	0.135	0.152	0.169	0.190	0.206
29	HRS	0.132	0.149	0.165	0.186	0.201
30	HRS	0.129	0.145	0.161	0.182	0.197
31	HRS	0.126	0.142	0.158	0.178	0.193
32	HRS	0.122	0.138	0.153	0.173	0.188
33	HRS	0.119	0.135	0.149	0.168	0.183
34	HRS	0.116	0.131	0.146	0.164	0.178
35	HRS	0.113	0.128	0.142	0.160	0.174
36	HRS	0.111	0.125	0.139	0.157	0.171

(Ord. 02.6, Appendix A, TABLE 3, Apr. 10, 2002)

FIGURE 4

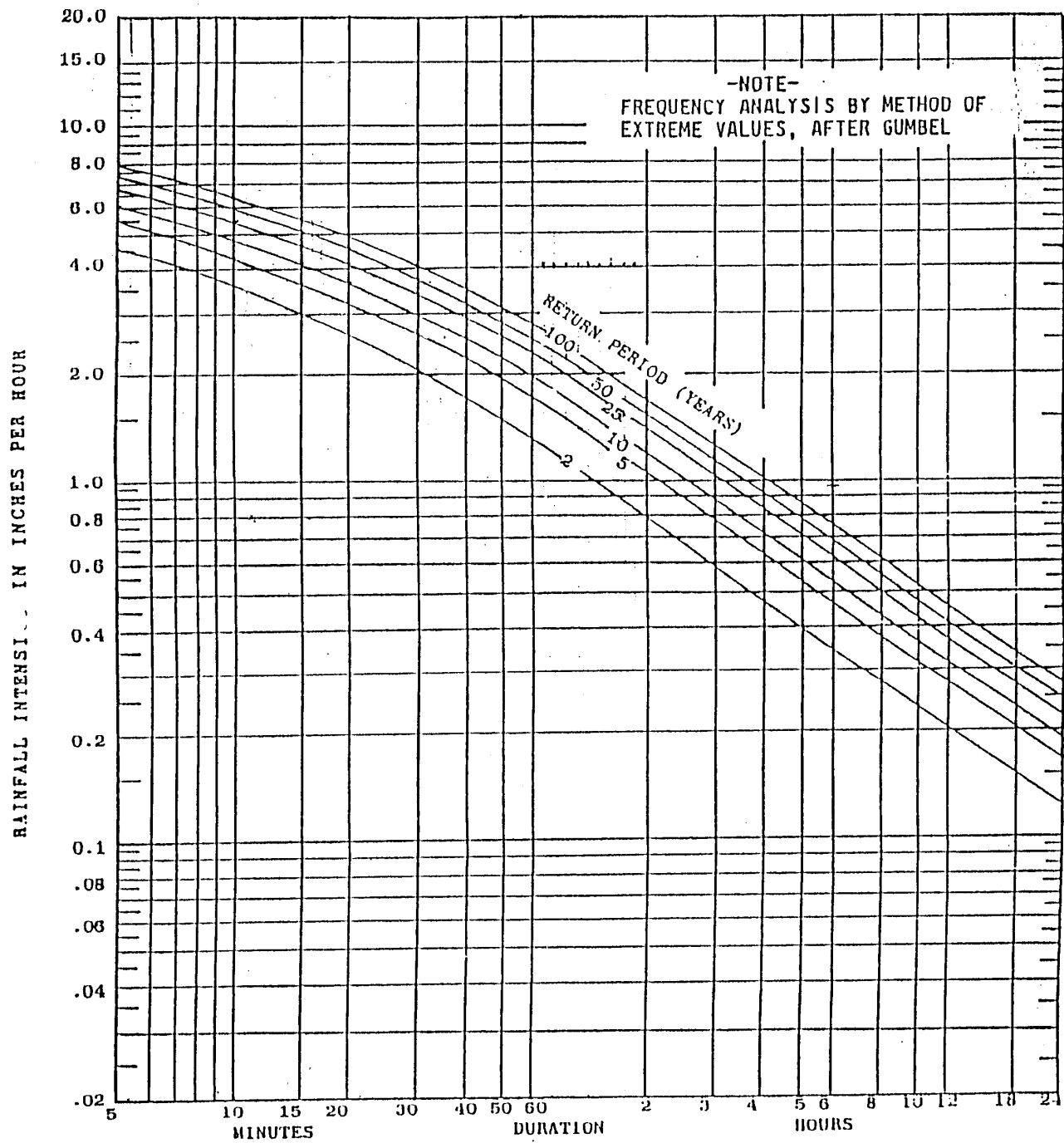


Figure 2.16 Rainfall Intensity-Duration-Frequency Curves
Evansville, Indiana 1903 - 1951

(U.S. Department of Commerce - Weather Bureau - Cooperative Studies Section)

(Ord. 02-6, Appendix A, FIGURE 4, Apr. 10. 2002)

Chapter 8.10

TABLE 5
Typical Values of Manning's n

Material	Manning's n	Desirable Maximum Velocities
Closed Conduits		
Concrete	0.013	15 f.p.s.
Vitrified Clay	0.013	15 f.p.s.
Brick	0.015	15 f.p.s.
Cast Iron	0.013	15 f.p.s.
Circular Corrugated Metal Pipe, Annular Corrugations, 2 2/3 x 1/2 in		
Unpaved	0.024	7 f.p.s.
25% Paved	0.021	7 f.p.s.
50% Paved	0.018	7 f.p.s.
100% Paved	0.013	7 f.p.s.
Circular Corrugated Metal Pipe, Helical, 2 2/3 x 1/2 in. Unpaved Corrugations		
12"	0.011	
18"	0.013	
24"	0.015	
36"	0.018	
48"	0.020	
60" or larger	0.021	
Corrugated Polyethylene Smooth Interior Pipe	0.012	15 f.p.s.
Concrete Culverts	0.013	
Open Channels		
Concrete, Trowl Finish	0.013	
Concrete, Broom and Float Finish	0.015	
Guniting	0.018	
Riprap Placed	0.030	
Riprap Dumped	0.035	
Gabion	0.028	
New Earth (Uniform, Sodded, Clay)	0.025	
Existing Earth (Fairly Uniform, With Some Weeds)	0.030	
Dense Growth of Weeds	0.040	
Dense Weeds and Brush	0.040	
Swale With Grass	0.035	

(Ord. 02-6, Appendix A, TABLE 5, Apr. 10, 2002)

Project _____ Retention Facility Design Return Period _____ yrs.

Designer _____ Release Rate Return Period _____ yrs.

Watershed Area _____ acres

Time of Concentration (undeveloped watershed) _____ minutes

Rainfall Intensity (i_U) _____ inches/hr

Undeveloped Runoff Coefficient (C_U) _____

Undeveloped Runoff Rate ($O = C_U i_U A_U$) _____ cfs

Developed Runoff Coefficient (C_D) _____

Storm Duration t_d (hrs)	Rainfall Intensity i_d (inches/hr)	Inflow Rate $I(t_d)$ $(C_D i_d A_D)$ (cfs)	Outflow Rate O $(C_U i_U A_U)$ (cfs)	Storage Rate S_{td} $I(t_d) - O$ (cfs)	Required Storage S_R $\left[I(t_d) - O \right] \frac{t_d}{12}$ (acre-ft)
0.17					
0.33					
0.50					
0.67					
0.83					
1.0					
1.5					
2.0					
3.0					
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					

Figure 6.2 Computation Sheet for Detention Storage
Calculations Using the Rational Method

(Ord. 02-6, Appendix A, TABLE 6, Apr. 10, 2002)

Chapter 8.10

APPENDIX B

Chapter 3: Time of concentration and travel time

Travel time (T_t) is the time it takes water to travel from one location to another in a watershed. T_t is a component of time of concentration (T_c), which is the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. T_c is computed by summing all the travel times for consecutive components of the drainage conveyance system.

T_c influences the shape and peak of the runoff hydrograph. Urbanization usually decreases T_c , thereby increasing the peak discharge. But T_c can be increased as a result of (a) ponding behind small or inadequate drainage systems, including storm drain inlets and road culverts, or (b) reduction of land slope through grading.

Factors affecting time of concentration and travel time

Surface roughness

One of the most significant effects of urban development on flow velocity is less retardance to flow. That is, undeveloped areas with very slow and shallow overland flow through vegetation become modified by urban development: the flow is then delivered to streets, gutters, and storm sewers that transport runoff downstream more rapidly. Travel time through the watershed is generally decreased.

Channel shape and flow patterns

In small non-urban watersheds, much of the travel time results from overland flow in upstream areas. Typically, urbanization reduces overland flow lengths by conveying storm runoff into a channel as soon as possible. Since channel designs have efficient hydraulic characteristics, runoff flow velocity increases and travel time decreases.

Slope

Slopes may be increased or decreased by urbanization, depending on the extent of site grading or the extent to which storm sewers and street ditches are used in the design of the water

management system. Slope will tend to increase when channels are straightened and decrease when overland flow is directed through storm sewers, street gutters, and diversions.

Computation of travel time and time of concentration

Water moves through a watershed as sheet flow, shallow concentrated flow, open channel flow, or some combination of these. The type that occurs is a function of the conveyance system and is best determined by field inspection.

Travel time (T_t) is the ratio of flow length to flow velocity:

$$T_t = \frac{L}{3600 V} \quad [\text{Eq. 3-1}]$$

where

T_t = travel time (hr),
 L = flow length (ft),
 V = average velocity (ft/s), and
3600 = conversion factor from seconds to hours.

Time of concentration (T_c) is the sum of T_t values for the various consecutive flow segments:

$$T_c = T_{t1} + T_{t2} + \dots T_{tm} \quad [\text{Eq. 3-2}]$$

where

T_c = time of concentration (hr) and
 m = number of flow segments.

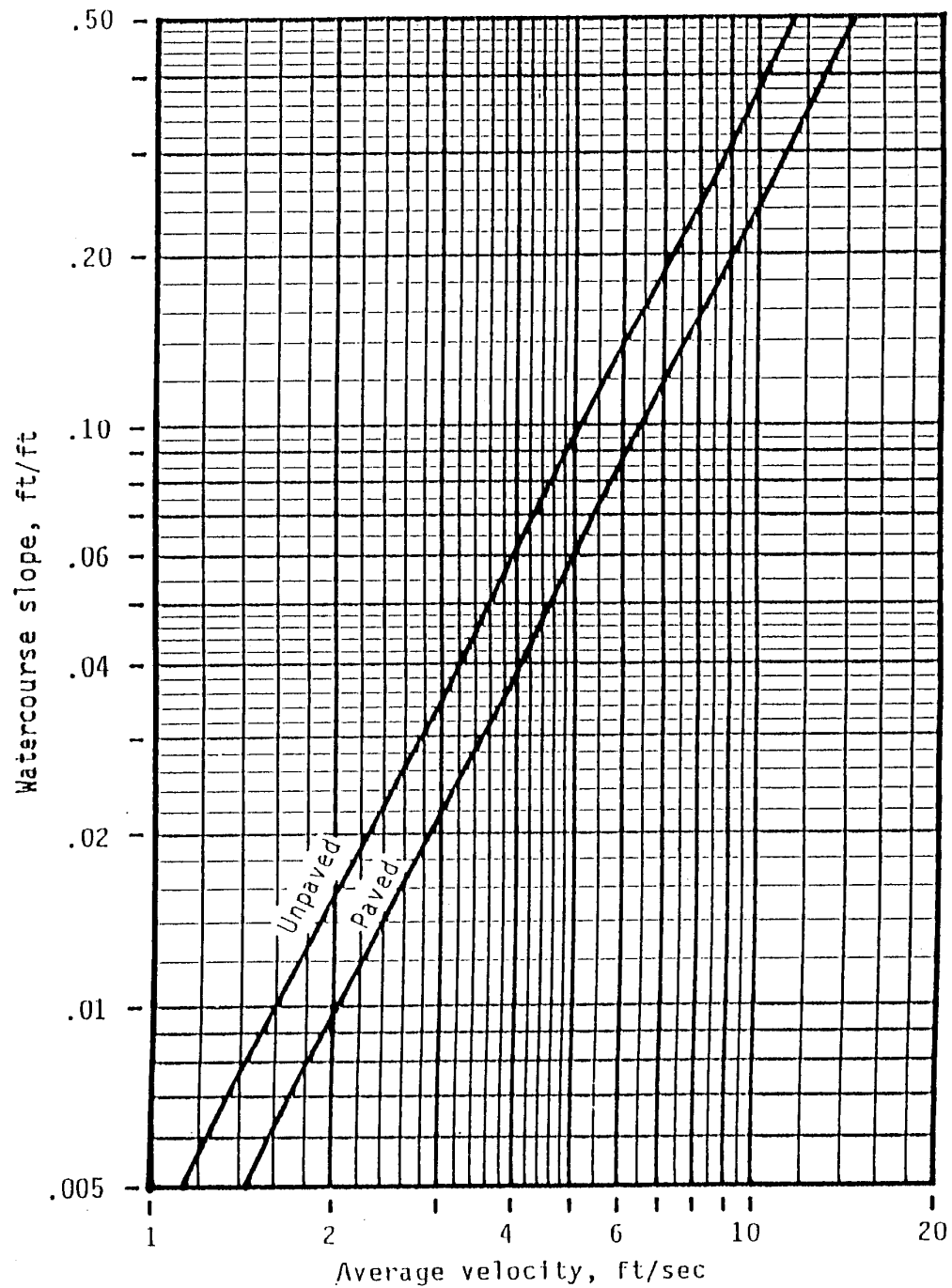


Figure 3-1.—Average velocities for estimating travel time for shallow concentrated flow.

Sheet flow

Sheet flow is flow over plane surfaces. It usually occurs in the headwater of streams. With sheet flow, the friction value (Manning's n) is an effective roughness coefficient that includes the effect of raindrop impact; drag over the plane surface; obstacles such as litter, crop ridges, and rocks; and erosion and transportation of sediment. These n values are for very shallow flow depths of about 0.1 foot or so. Table 3-1 gives Manning's n values for sheet flow for various surface conditions.

For sheet flow of less than 300 feet, use Manning's kinematic solution (Overton and Meadows 1976) to compute T_t :

$$T_t = \frac{0.007 (nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \quad [\text{Eq. 3-3}]$$

Table 3-1.—Roughness coefficients (Manning's n) for sheet flow

Surface description	n^1
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover $\leq 20\%$	0.06
Residue cover $> 20\%$	0.17
Grass:	
Short grass prairie	0.15
Dense grasses ²	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods: ³	
Light underbrush	0.40
Dense underbrush	0.80

¹The n values are a composite of information compiled by Engman (1986).

²Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

³When selecting n , consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

where

T_t = travel time (hr),

n = Manning's roughness coefficient (table 3-1),

L = flow length (ft),

P_2 = 2-year, 24-hour rainfall (in), and

s = slope of hydraulic grade line (land slope, ft/ft).

This simplified form of the Manning's kinematic solution is based on the following: (1) shallow steady uniform flow, (2) constant intensity of rainfall excess (that part of a rain available for runoff), (3) rainfall duration of 24 hours, and (4) minor effect of infiltration on travel time. Rainfall depth can be obtained from appendix B.

2.) Shallow concentrated flow

After a maximum of 300 feet, sheet flow usually becomes shallow concentrated flow. The average velocity for this flow can be determined from figure 3-1, in which average velocity is a function of watercourse slope and type of channel. For slopes less than 0.005 ft/ft, use equations given in appendix F for figure 3-1. Tillage can affect the direction of shallow concentrated flow. Flow may not always be directly down the watershed slope if tillage runs across the slope.

After determining average velocity in figure 3-1, use equation 3-1 to estimate travel time for the shallow concentrated flow segment.

Open channels

Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle sheets. Manning's equation or water surface profile information can be used to estimate average flow velocity. Average flow velocity is usually determined for bank-full elevation.

Manning's equation is

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n} \quad [\text{Eq. 3-4}]$$

where

- V = average velocity (ft/s),
- r = hydraulic radius (ft) and is equal to a/p_w ,
- a = cross sectional flow area (ft²),
- p_w = wetted perimeter (ft),
- s = slope of the hydraulic grade line (channel slope, ft/ft), and
- n = Manning's roughness coefficient for open channel flow.

Manning's n values for open channel flow can be obtained from standard textbooks such as Chow (1959) or Linsley et al. (1982). After average velocity is computed using equation 3-4, T_t for the channel segment can be estimated using equation 3-1.

Reservoirs or lakes

Sometimes it is necessary to estimate the velocity of flow through a reservoir or lake at the outlet of a watershed. This travel time is normally very small and can be assumed as zero.

Limitations

- Manning's kinematic solution should not be used for sheet flow longer than 300 feet. Equation 3-3 was developed for use with the four standard rainfall intensity-duration relationships.
- In watersheds with storm sewers, carefully identify the appropriate hydraulic flow path to estimate T_c . Storm sewers generally handle only a small portion of a large event. The rest of the peak flow travels by streets, lawns, and so on, to the outlet. Consult a standard hydraulics textbook to determine average velocity in pipes for either pressure or nonpressure flow.

The minimum T_c used in TR-55 is 0.1 hour. (C. 1.1.1.1)

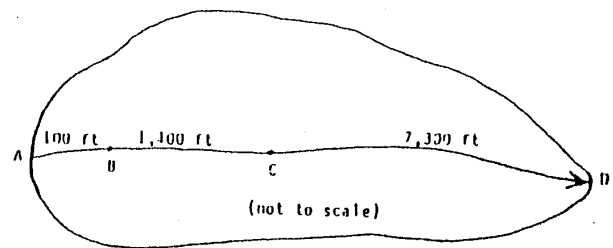
- A culvert or bridge can act as a reservoir outlet if there is significant storage behind it. The procedures in TR-55 can be used to determine the peak flow upstream of the culvert. Detailed storage routing procedures should be used to determine the outflow through the culvert.

Example 3-1

The sketch below shows a watershed in Dyer County, northwestern Tennessee. The problem is to compute T_c at the outlet of the watershed (point D). The 2-year 24-hour rainfall depth is 3.6 inches. All three types of flow occur from the hydraulically most distant point (A) to the point of interest (D). To compute T_c , first determine T_t for each segment from the following information:

- Segment AB: Sheet flow; dense grass; slope (s) = 0.01 ft/ft; and length (L) = 100 ft.
- Segment BC: Shallow concentrated flow; unpaved; s = 0.01 ft/ft; and L = 1400 ft.
- Segment CD: Channel flow; Manning's n = .05; flow area (a) = 27 ft²; wetted perimeter (p_w) = 28.2 ft; s = 0.005 ft/ft; and L = 7300 ft.

See figure 3-2 for the computations made on worksheet 3.



Worksheet 3: Time of concentration (T_c) or travel time (T_t)

Project Heavenly Acres By DW Date 10/6/85
 Location Dyer County, Tennessee Checked XW Date 10/8/85
 Circle one: Present Developed
 Circle one: T_c T_c through subarea

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c only)		Segment ID	AB	
1. Surface description (table 3-1)			DENSE GRASS	
2. Manning's roughness coeff., n (table 3-1) ..			0.24	
3. Flow length, L (total L \leq 300 ft)	ft		100	
4. Two-yr 24-hr rainfall, P_2	in		3.6	
5. Land slope, s	ft/ft		0.01	
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	hr	Compute T_t	0.30	+ [] = 0.30
Shallow concentrated flow		Segment ID	BC	
7. Surface description (paved or unpaved)			Unpaved	
8. Flow length, L	ft		1400	
9. Watercourse slope, s	ft/ft		0.01	
10. Average velocity, V (figure 3-1)	ft/s		1.6	
11. $T_t = \frac{L}{3600 V}$	hr	Compute T_t	0.24	+ [] = 0.24
Channel flow		Segment ID	CD	
12. Cross sectional flow area, a	ft ²		27	
13. Wetted perimeter, p_w	ft		28.2	
14. Hydraulic radius, $r = \frac{a}{p_w}$	ft	Compute r	0.957	
15. Channel slope, s	ft/ft		0.005	
16. Manning's roughness coeff., n			0.05	
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$	ft/s	Compute V	2.05	
18. Flow length, L	ft		7300	
19. $T_t = \frac{L}{3600 V}$	hr	Compute T_t	0.99	+ [] = 0.99
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19)		hr		1.53

Figure 3-2.—Worksheet 3 for example 3-1.

(210-VI-TR-55, Second Ed., June 1986)

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Worksheet 3: Time of concentration (T_c) or travel time (T_t)

Project _____ By _____ Date _____

Location _____ Checked _____ Date _____

Circle one: Present Developed _____

Circle one: T_c T_t through subarea _____

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c only)

Segment ID

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1) ..
3. Flow length, L (total $L \leq 300$ ft) ft
4. Two-yr 24-hr rainfall, P_2 in
5. Land slope, s ft/ft
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute T_t hr

	+	-

Shallow concentrated flow

Segment ID

7. Surface description (paved or unpaved)
8. Flow length, L ft
9. Watercourse slope, s ft/ft
10. Average velocity, V (figure 3-1) ft/s
11. $T_t = \frac{L}{3600 V}$ Compute T_t hr

	+	-

Channel flow

Segment ID

12. Cross sectional flow area, a ft²
13. Wetted perimeter, p_w ft
14. Hydraulic radius, $r = \frac{a}{p_w}$ Compute r ft
15. Channel slope, s ft/ft
16. Manning's roughness coeff., n
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$ Compute V ft/s
18. Flow length, L ft
19. $T_t = \frac{L}{3600 V}$ Compute T_t hr
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19) hr

	+	-

(210-VI-TR-65, Second Ed., June 1986)

(Ord. 02-6, Appendix B, Chapter 3, Apr. 10, 2002)

D-3

Chapter 8.10

APPENDIX C

Town of Ferdinand
Stormwater Detention Facility Information Form

Written Notification of Deficiencies Sent On: _____

(Ord. 2015-14, S1B, March 10, 2015) (Ord. 13-07, Exhibit A, May 1, 2013)

Chapter 8.20

STREET AND DRAINAGE DESIGN AND EXCAVATING STANDARDS

Sections:

8.20.010	Excavation Application
8.20.020	Surety Bond
8.20.030	Application adopted and incorporated herein
8.20.040	Verbal or written approval
8.20.050	Compliance with Application requirements and standards
8.20.060	Penalty for violation
8.20.070	Recovery of costs as a result of any violation
8.20.080	Provision applicable to public street rights-of-way
8.20.090	Modification of Standards
8.20.100	Severability
8.20.110	Application/Appendix A

8.20.010 Excavation Application. Any person or entity, prior to excavating within any public street right-of-way, shall fully complete, date, sign, and deliver to the Town for approval, the Application incorporated herein and attached hereto as Appendix A. (Ord. 2023-18, S1, Sept. 21, 2023) (Ord. 05-02, S1, Apr. 13, 2005)

8.20.020 Surety Bond. Any Application made shall be approved only upon acceptance of a surety bond to be filed by the petitioner, payable to the Town of Ferdinand. The amount of such bond to be determined by the Town Council in consultation with the Street Superintendent, based upon the project involved with security acceptable to the Town Council. The bond shall obligate the petitioner to restore the street, right of way or utility line to its original condition and obligate the petitioner to pay any damages inflicted, caused, or in any way occasioned by the petitioner to any street, right of way, utility line, or any private person, firm, or corporation. Petitioner will be released from the agreement and the bond will be discharged upon satisfactory report of the Street Superintendent after inspection. (Ord. 2023-18, S2, Sept. 21, 2023)

8.20.030 Application adopted and incorporated herein. All of the requirements and standards as set forth in the Application are adopted and incorporated herein and shall constitute and be the requirements and standards of the Town as if fully set forth in this Ordinance. (Ord. 2023-18, S3, Sept. 21, 2023) (Ord. 05-02, S2, Apr. 13, 2005)

8.20.040 Verbal or written approval. No Application shall be approved by the Street Superintendent without the verbal or written approval of the members of the Town Council after review of the Application and the scope of work by all department heads. (Ord. 2023-18, S4, Sept. 21, 2023)

8.20.050 Compliance with Application requirements and standards. Upon approval of the Application, the applicant shall fully comply with all of the requirements and standards as set forth in the Application and which are incorporated herein. (Ord. 2023-18, S5, Sept. 21, 2023) (Ord. 05-02, S3, Apr. 13, 2005)

8.20.060 Penalty for violation. Any person or entity violating any provision of this Ordinance may be subject to a fine, as determined by the Town Council, not to exceed Two Thousand Five Hundred Dollars (\$2,500.00). Additionally, the Town may require that corrective action be taken to obtain full compliance with this Ordinance. Additionally, the Town may impose special restrictions or require guarantees for approval of future application requests. (Ord. 2023-18, S6, Sept. 21, 2023) (Ord. 05-02, S4, Apr. 13, 2005)

8.20.070 Recovery of costs as a result of any violation. In the event the Town files legal action to obtain payment of any fine, or to obtain corrective relief, or to prevent continuing or future violations of this Ordinance, or to recover any damages caused the Town as a result of any violation, then the Town shall also be entitled to recover its costs and attorney fees. (Ord. 2023-18, S7, Sept. 21, 2023) (Ord. 05-02, S5, Apr. 13, 2005)

8.20.080 Provision applicable to public street rights-of-way. The provisions of this Ordinance are applicable only to public street rights-of-way and not any other utility or other easement owned by the Town which is outside of any public street right-of-way. Nothing contained herein shall be construed as adversely affecting any other contractual right of the Town or any other party. (Ord. 2023-18, S8, Sept. 21, 2023) (Ord. 05-02, S6, Apr. 13, 2005)

8.20.090 Modification of Standards. Where the Town Council finds that unreasonable hardship or impracticality may result from strict compliance with this Ordinance, it may vary or modify the standards so that substantial justice may be done and the public interest served. (Ord. 2023-18, S9, Sept. 21, 2023) (Ord. 05-02, S7, Apr. 13, 2005)

8.20.100 Severability. If any provision of this Ordinance or the application thereof is held invalid, the invalidity shall not affect other provisions or application of this Ordinance which can be given effect without the invalid provision or application, and to this end, the provisions of this Ordinance are declared severable. This Ordinance shall be in full force and effect from and after its passage and publication as required by law. (Ord. 2023-18, S10, Sept. 21, 2023) (Ord. 05-02, S8, Apr. 13, 2005)

8.20.110 Application/Appendix A. The Application/Appendix A has been amended to reflect these changes and the revised application should be substituted and attached hereto. (Ord. 2023-18, S11, Sept. 21, 2023)

APPENDIX A

TOWN OF FERDINAND

STANDARDS FOR EXCAVATING IN A PUBLIC RIGHT-OF-WAY

To the Town of Ferdinand
Ferdinand, IN 47532

(812) 367-2280

APPLICATION DATE: _____ 20 _____ PROPOSED DATE OF WORK _____

I hereby make application for PERMIT to: (Check one.)

- ____ A. Cut along the Town Roadway _____
Describe the type of trench work being done. Check one or all that apply.
____ 16" or wider Specify _____ Trencher _____ Knife _____ Bore _____
____ B. Cut or bore in the Town Roadway. _____

Prior to any work being performed, I understand my responsibilities are as follows:

1. I will notify the Indiana Underground Protection Service (Holy Moley) at 800-382-5544 at least two (2) working days prior to the start of any work. Any emergency being performed by Town of Ferdinand utilities will be exempt of the two day working day notice prior to the start of work.
2. I will contact the Town of Ferdinand Street Dept. at least two (2) days prior to the start of any work. If a road is to be closed or interfere with traffic in any way, I must make the Street Dept. aware of it at this time. Ferdinand Street Dept. will notify the local law enforcement agency as deemed necessary. I will inform the Street Department when the road will be cleared.
3. I understand if after receiving this permit, there is utility line, conduit or wire, gas, water, electric, sanitary or storm sewer damaged or destroyed, I may be held monetarily responsible. The Town of Ferdinand will not be held responsible for any charges or fines due to a damaged line or utility.
4. I am aware of the minimum depths required for my installation:
Telephone lines-18" TV Cable-18" Gas-24" Electric-primary-48", service-36" Fiber optic-48" Sewer-18"

**** NOTE: Any buried utility will be required to be placed no closer than two (2) feet, in any direction, of a Town drainage structure such as a bridge, pipe or culvert.**

5. I understand that prior to any excavation work, all hard surfaced roads (asphalt, chip/seal or concrete) shall be saw cut to a minimum depth of four (4) inches.
6. All excess excavated material shall be removed from the right-of-way. Excavation shall meet all required safety standards and shall be barricaded to protect the public.
7. I hereby agree to use flowable fill material throughout the fill area directly under and two (2) feet beyond each side of the road surface. This fill will come within four (4) inches of the original surface on all hard surfaced roads when at this time I will repave the fill area. (See section #9.) This fill will come to within eight (8) inches on all rock roads where I will fill with eight (8) inches of compact #53 stone. **Only those materials approved by the Ferdinand Street Dept. will be permitted in these fill areas.** A list of specifications of these materials can be acquired at the Town Office or from the Street Superintendent.

For your convenience, a list of approved fill materials and their suppliers are as follows:

Open Trench fill: IMI	Central Concrete Supply
1a. QUICKSET: 1204	1a. RAPIDSET

NO OTHER FILL WILL BE ACCEPTABLE UNTIL IT IS TESTED AND MEETS SPECIFICATIONS SET IN THE TOWN OF FERDINAND STREET DEPARTMENT STANDARDS AND POLICY (AVAILABLE ON TOWN WEBSITE)

ALL FILL OUTSIDE THE TWO (2) FOOT AREAS OF THE ROADWAY shall use the excavated material in compacted lifts.

8. I understand that unusually large excavations MAY be subject to alterations of this permit at the Street supervisors discretion. If any excavation is larger than twenty-five (25) cubic yards, the applicant may request an exception to the use of flowable fill.
9. I agree to replace the road surface to match the existing surface. Asphalt and chip/seal roads will be resurfaced with three (3) inches of HAC base and one (1) inch of HAC surface. All rock roads shall be resurfaced with eight (8) inches of #53 stone.
10. I understand that I have five (5) working days from the day work begins, to repave the road surface. If I cannot repave the fill area immediately after filling the cut area, I will cap off the fill area with #53 stone and maintain it until the time I can repave this area. If I am unable to repave this area within the 5-day period, I will notify the Street Superintendent at the time work begins, to inform him of that fact and accept all charges for the replacement of said road surface.
11. I agree to continually maintain a debris free roadway. Any form of dirt, mud or other foreign substance will be immediately removed from the roadway throughout the duration of the project.
12. I agree to maintain an open ditch in the Town right-of-way throughout the duration of the project.
13. I understand that any equipment used to backfill along a Town street will be equipped with either rubber tires or rubber tracks. **The applicant may request an exception to be granted for the use of steel tire or steel track machine to be permitted on a Town street.**
14. I agree that any sod removed will be replaced in a satisfactory manner to the Street Superintendent.
15. I agree to erect and maintain all necessary barricades, detours, detour signs and warning lights required to safely direct traffic over or around the part of the road where the above described work is to be done so long as the work in any way interferes with traffic.
16. I agree to move or remove any structures installed under this permit, at applicant's own expense, should traffic conditions or road improvement necessitate and when requested to do so by the Street Superintendent.
17. I agree to assume all responsibility for any injury or damage to persons or property resulting directly or indirectly from the work contemplated in the application.
18. I agree that said work will not interfere with any existing structure along or across said Town road, without permission from the owner of said structure.
19. I agree to stop said work at any time upon request of the Street Superintendent.
20. I agree that any pipe, tile, culvert or other material used in connection with this work will meet the specifications of the Street superintendent as to size and quality.
21. If any hydrant water or tank water is necessary, I will contact the Water Superintendent and formally request such temporary water, at least 24 hours in advance.
22. I will provide a surety bond in the amount deemed appropriate given the scope of the project with security acceptable to the Town Council.
23. I will restore the street, right of way or utility line to its original condition and pay any damages inflicted, caused or in any way occasioned by me to any street, right of way, utility, line or any private person, firm or corporation.
24. I will not start work until I have an approved permit in hand.

I realize that failure to comply with these procedures and requirements may cause: a fine; the work to be stopped; removal of any installation; claims for damages; and rejection of future applications or special conditions being imposed thereon.

WORK DESCRIPTION

Name of Town road affected by this cut or bore _____

The type of road surface where the cut or bore is to be made _____

The opening to be made will be _____ feet long in the right-of-way.

The opening to be made will be _____ feet long and _____ feet wide in the road surface.

Give brief description of work to be performed: _____

Name of Company: _____

Complete Address: _____

Phone Number(s): _____

Email Address: _____

Representative Signature: _____

Application and scope of work has been reviewed by all department heads: _____

Town Council has given its verbal or written approval of application: _____

A surety bond in the amount of \$ _____ is required due to the nature and scope of the project.

Approved By: _____

Town of Ferdinand--Street Superintendent

Chapter 8.25

SIDEWALK/CURB REPLACEMENT PROGRAM

Sections:

- 8.25.010 Adoption of Sidewalk/Curb Replacement Program
- 8.25.020 Authority to amend the Program
- 8.25.030 Effective

8.25.010 Adoption of Sidewalk/Curb Replacement Program. That the Ferdinand Sidewalk/Curb Replacement Program attached. hereto as Exhibit A is hereby approved and adopted. (Ord. 2009-09, S1, July 7, 2009)

8.25.020 Authority to amend the Program. The Ferdinand Town Council has the sole authority to make any changes, additions or amendments to the Program. (Ord. 2009-09, S2, July 7, 2009)

8.25.030 Effective. That this Ordinance shall take effect upon its passage by the Town Council of the Town of Ferdinand, Indiana. (Ord. 2009-09, S3, July 7, 2009)

EXHIBIT A

FERDINAND SIDEWALK/CURB REPLACEMENT PROGRAM

It is the intention of the Town of Ferdinand to encourage the construction, repair, replacement, and maintenance of sidewalks and curbs throughout the Town. The Town of Ferdinand and the adjoining property owner working together can best accomplish this.

The Town of Ferdinand will inspect all sidewalks/curbs within the Town as well as areas within the Town that need sidewalks and will prioritize the sidewalks/curbs which need repair, the sidewalks/curbs which need replacement and the areas within the Town that need to have sidewalks/curbs constructed. It is the intent of the Town that a certain amount of funds be appropriated each year for sidewalk/curb construction, repair and replacement. Those appropriated funds will be divided into two portions. One portion will be used to construct, repair or replace, as the case may be, the sidewalks/curbs which rank the highest on the priority list, based upon established replacement criteria, and will be paid for by the Town of Ferdinand. The Town Council will advertise for and accept bids from contractors on an annual basis for replacement of sidewalks on a square yard basis and curbs on a lineal foot basis under such terms and conditions as the Town Council may require. All sidewalks/curbs must be constructed and reconstructed in accordance with the Design Standards and Specifications Manual of the Town of Ferdinand, Indiana using materials specified by the Town of Ferdinand. The Town Council will approve the bid and contractor to receive the sidewalk/curb replacement business from the Town of Ferdinand each year. The remaining portion on the appropriated funds may be used for projects that meet the guidelines of the Ferdinand Sidewalk/Curb 50/50 Replacement Program.

The following is the Town of Ferdinand's Sidewalk/Curb 50/50 Replacement Program. The Town Council will administer the Program with the assistance of the Street Department to which it will delegate some of its duties, from time to time. To be considered for the Program, the Town Council must approve a request and payment of the Owner's portion of the project cost must be received before the replacement project begins. Those interested in the Program should review the guidelines and complete a Sidewalk/Curb 50/50 Replacement Program Request Form. Application does not guarantee approval of the project.

50/50 REPLACEMENT PROGRAM

Throughout this program synopsis the term "replacement" shall include repair and, subject to the discretion of the Town Council, construction. The contractor awarded the annual sidewalk/curb replacement bid will be the only contractor eligible for the 50/50 work. The Program will proceed as follows:

1. The Ferdinand Street Superintendent will receive requests for sidewalk/curb replacement.
2. The Ferdinand Street Superintendent will inspect the sidewalk/curb to see if it needs to be replaced. A sidewalk/curb section may not be split. If any portion of a section of sidewalk borders the adjoining property, the complete section will be replaced as if it were the applicant's. The sidewalk/curb replacement program is intended to replace complete sidewalks/curbs. The replacement of only one or two sections of sidewalk/curb is expensive due to minimum charges and not encouraged by the Town.
3. The Ferdinand Street Superintendent will inform the property owner of the cost of replacement of the sidewalk/curb. The property owner will be responsible for and must pay 50% of the cost of the replacement of the sidewalk/curb. The Town will bear the full cost of removal of the existing sidewalk or curb and the remainder of the cost of replacement.
4. Town Council will consider all requests, and indicate whether or not the request is approved.

5. The applicant must submit payment to the office of the Clerk-Treasurer or other satisfactory financial arrangements must be made, before a Notice to Proceed will be issued.
6. The contractor will be notified by the Ferdinand Street Superintendent to proceed with the work. All work must be completed by the contractor in accordance with the contract documents and must be coordinated with the Ferdinand Street Department to allow for removal of the old sidewalk and curb. The contractor may be subject to a penalty if the work is not completed within the specified time, unless otherwise agreed upon by the Town Council.
7. Handicap accessible sidewalks will be installed at every intersection to meet Federal Standards for slope and width. The Town, under this Program, will pay the cost for replacement of downspouts under the width of the sidewalk, crosswalks, radiuses, and alley entrances in full.
8. Replacement will be limited to the current width of existing sidewalks the length of the property in the public right-of-way.
9. If it is determined that the proposed sidewalk/curb replacement is not necessary, which includes requests solely for the purpose of replacement or installation of a driveway approach/cut, any applicant who wants or needs to replace the sidewalk/curb and/or driveway approach/cut may do so at its own cost and expense, exclusive of the program. In such event, the Town may upon proper and timely request made bear the cost of and agree to tear out the existing sidewalk/curb and/or driveway approach/cut. The replacement of the sidewalk/curb and/or driveway approach/cut must then be completed at applicant's sole cost and expense. Such replacement will also be subject to the Ferdinand Street Superintendent's inspections as described below and must be completed in accordance with the Design Standards and Specifications Manual of the Town of Ferdinand, Indiana.
10. Funding is limited. Participation in the Program is, among other things, subject to the discretion of the Town Council and limited by the availability of funds for the project.
11. The Town of Ferdinand may terminate or suspend the Program with or without prior notice.

INSPECTION'S AND PAYMENTS

Two (2) inspections by the Ferdinand Street Superintendent or his designee will be required. The first will be when sidewalk is formed and before it is poured. The second will be the final inspection when the work is completely finished. The Ferdinand Street Superintendent or his designee is authorized by the Town Council to inspect the project and, upon satisfactory completion of the work, advise the Town Council to authorize payment to the contractor.

REPLACEMENT OF SIDEWALKS BY OWNERS

The Town Council recognizes the fact that some property owners may want to replace sidewalks/curbs adjoining their property in the right-of-way bordering the Town street on their own, without using the Town's contractor or when the replacement does not meet the criteria of the Replacement Program. In these cases, the Town will not reimburse the owner for any expenses incurred in replacing the sidewalk/curbs. However, as indicated in item 9 above, the Town may still remove the old sidewalk or curb at no expense to such Owner. In the event that the Town does remove the old sidewalk or curb, the Owner will be required to have the replacement sidewalk or curb, as the case may be, installed within thirty (30) days of such removal. The replacement will still be subject to the Ferdinand Street Superintendent's

inspections as described above and the sidewalk/curb replacement must be completed in accordance with the Design Standards and Specifications Manual of the Town of Ferdinand, Indiana.

NEW SIDEWALKS

Nothing contained herein shall be construed as the Town's waiver of its right to require an Owner to Construct or repair a sidewalk pursuant to I.C. 36-9-36-17 or any other statutory authority. For sidewalks/curbs which are not specifically designated by the Town Council as being eligible or appropriate for the 50/50 program, the responsibility for construction of new sidewalks/curbs within the city limits and the zoning boundary of the Town of Ferdinand is with the developer or owner of an undeveloped lot or property owner. In residential areas without sidewalks/curbs, the Town Council will review sidewalk/curb requests for new construction. The construction of new sidewalks/curbs must have a benefit for the citizens and the Town of Ferdinand, including but not limited to achieving the goal or improving the quality of the pedestrian walkway system within the Town of Ferdinand. The primary considerations will be the access it provides for the citizens of Ferdinand to schools, churches, parks, and shopping areas, and recreational and health benefits. The provisions of the 50/50 program will NOT apply to these new sidewalks/curbs and the owner will be responsible for the entire cost of the new construction. Such sidewalk/curb construction must be completed in accordance with the Design Standards and Specifications Manual of the Town of Ferdinand, IN with materials specified by the Town of Ferdinand and will be subject to the Ferdinand Street Superintendent's inspections as described above.

**Town of Ferdinand, IN
Ferdinand Town Council**

Bidders Form

Contractor _____

Date _____

ITEM #10 SIDEWALK REPLACEMENT PROGRAM

Bidders shall quote per unit on each of the following items:

(A) 5" thick man-made concrete monolithic sidewalk and curb in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete sidewalk to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.

Price per Square Foot _____

(B) 5" thick man-made concrete sidewalk and curb in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete sidewalk to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.

Price per Square Foot _____

(C) Standard concrete curb and gutter in place per lineal foot, excluding the removal of existing curb and gutter. Curb and gutter to be constructed in accordance with Town of Ferdinand Design Standards and Specifications Manual. Item shall include all material and labor necessary to complete project.

Price per Lineal Foot _____

(D) 5" thick man-made concrete ADA curb ramp in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete curb ramp to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.

Price per Square Foot _____

ITEM # 10 SIDEWALK REPLACEMENT PROGRAM- Continued

(E) 6" thick man-made concrete driveway crossings in place per square foot, excluding the removal of existing sidewalk and curb. 6" thick, concrete driveway crossings to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material necessary to complete project.

Price per Square Foot _____

Contractor shall be responsible for supplying and applying cure and seal. The Ferdinand Street Department will be responsible for applying truncated warning domes (melt down) to all ADA ramps; Contractor shall not apply sealer to this area.

TOWN OF FERDINAND
SIDEWALK/CURB 50/50 REPLACEMENT REQUEST FORM

Please Note: The Town of Ferdinand will remove the existing sidewalk/curb on all approved 50/50 Replacement Requests at its cost and will pay for the cost of replacement of existing downspouts under the width of the sidewalk, crosswalks, radiuses and alley entrances. The Town of Ferdinand and the Owner will each pay, on a 50/50 basis, the remaining cost to replace or repair the sidewalk and curb adjoining the property line and the street. The Town will attempt to contact each property owner prior to measuring and marking the sidewalk/curb to be replaced. Property lines should be marked in some manner. Sidewalk sections will not be split. Only complete sections will be replaced, even if a portion of the new sidewalk may be on the adjoining property. Please complete the following:

PROPERTY OWNER NAME(S): _____

ADDRESS: _____

PHONE: Home: _____ Work: _____ Cell: _____

REQUESTED REPAIRS: _____

FRONT FOOTAGE _____ SIDE FOOTAGE _____

TOTAL FOOTAGE _____ DRIVE ENTRANCE _____

SPRINKLER HEAD OR OTHER OBSTACLES WITHIN 6" OF WALK? YES _____ NO _____

TREE ROOTS AFFECTING SIDEWALK? YES _____ NO _____

LIST OTHER OBSTACLES _____

OWNER'S COMMENTS: _____

I agree to the terms of the Town of Ferdinand, Indiana Sidewalk/Curb 50/50 Replacement Program.
SIGNATURE OF OWNER(S): _____

Return this form to: Marc Steczyk, Town Manager, 2005 Main St., Ferdinand Indiana 47532
Phone: 367-2282 Fax: 367-2683 E-mail: msteczyk@ferdinandindiana.org

FOR INTERNAL USE ONLY:

REPLACEMENT REQUIREMENTS OF PROGRAM: YES _____ NO _____

FERDINAND STREET SUPERINTENDENT'S SIGNATURE: _____ DATE: _____

COST OF PROJECT: _____ AMOUNT OWED BY OWNER: _____
(EXCLUSIVE OF REMOVAL)

APPROVED THIS _____ DAY OF _____, 2009.

SIGNATURE OF PRESIDING OFFICER

SPECIFICATIONS

ITEM #10- SIDEWALK REPLACEMENT PROGRAM

The Ferdinand Street Department is responsible for the removal of existing sidewalk and curb as well as preparing the sub-grade for installation of the items noted below. This includes compaction of #1 1 stone to prepare the sub-grade.

Bidders shall quote prices per unit on each of the following items:

- (A) 5" thick man-made concrete monolithic sidewalk and curb in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete sidewalk to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.
- (B) 5" thick man-made concrete sidewalk and curb in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete sidewalk to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.
- (C) Standard concrete curb and gutter in place per lineal foot, excluding the removal of existing curb and gutter. Curb and gutter to be constructed in accordance with Town of Ferdinand Design Standards and Specifications Manual. Item shall include all material and labor necessary to complete project.
- (D) 5" thick man-made concrete ADA curb ramp in place per square foot, excluding the removal of existing sidewalk and curb. 5" thick, concrete curb ramp to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material and labor necessary to complete project. Curb shall be included in the per square foot price for the sidewalk.
- (E) 6" thick man-made concrete driveway crossings in place per square foot, excluding the removal of existing sidewalk and curb. 6" thick, concrete driveway crossings to be constructed in accordance with Town of Ferdinand Design Standards and Specification Manual, except that 6x6 W2.9xW2.9 WWF shall not be required. Item shall include all material necessary to complete project.

Contractor shall be responsible for supplying and applying cure and seal. The Ferdinand Street Department will be responsible for applying truncated warming domes (melt down) to all ADA ramps; Contractor shall not apply sealer to this area.

(Exhibit A - Ord. 2009-09, July 7, 2009)

Chapter 8.30

SUMP PUMPS

Sections:

8.30.010	Sump Pumps
8.30.011	Duty to Enforce
8.30.020	Penalty for Violations
8.30.021	Official Citation
8.30.022	Payment of fine to Ordinance Violation Clerk
8.30.023	Recovery of Expenses
8.30.030	Administrative Liability
8.30.040	Separability
8.30.050	Prior Ordinances

8.30.010 Sump Pumps. It shall be unlawful for any person, firm, or corporation who is owning, occupying or possessing any newly constructed building or structure, situated upon a street, avenue or other public place to discharge a sump pump on any improved area of a street within the Town of Ferdinand. It shall also be unlawful for any person, firm, or corporation who owns, occupies, or possesses any existing building or structure, situated upon a street, avenue or other public place to discharge a newly installed sump pump, excluding replacement units, on any improved area of a street within the Town of Ferdinand. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.011 Duty to Enforce. It shall be the duty of the Ferdinand Street Superintendent or his appointed agent to inspect and/or investigate any potential violation of this Ordinance, and upon determining that a violation has occurred, he shall cause a citation to be issued by an authorized law enforcement officer within the Town of Ferdinand to the owner, occupier, or possessor of the building or structure. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.020 Penalty for Violations. Any person, persons, firm or corporation violating any of the provisions of this chapter shall be required to pay a fine of Fifty Dollars (\$50.00) for a violation of this Ordinance. Second and subsequent violations will result in a fine of Two Hundred Dollars (\$200.00). Each day of noncompliance with the provisions of this Ordinance shall constitute a separate and distinct violation. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.021 Official Citation. All violations of this Ordinance shall be issued in writing upon an Official Citation form in conformity with and of the type presently being implemented by the Town of Ferdinand. A copy of the citation shall be filed with the Town's Ordinance Violation Clerk. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.022 Payment of Fine to Ordinance Violation Clerk. Any monies paid as fines pursuant to this Ordinance shall be paid, within ten (10) days of the issuance of the citation, to the Town's Ordinance Violations Clerk at the Town Hall, who shall issue a receipt, in duplicate, to the payor. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.023 Recovery of Expenses. The Town may collect, in addition to any monies owed to it pursuant to this Ordinance, all costs and attorney's fees incurred to enforce this Ordinance or to defend the Town against any suits wrought against the Town in connection with action taken pursuant to this Ordinance. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.030 Administrative Liability. No officer, agent, or employee of the Town of Ferdinand shall render himself personally liable for any damage that may occur to persons or property as a result of any act required or permitted in the discharge of his duties under this chapter. Any suit brought against any officer, agent or employee of the Town of Ferdinand as a result of any act required or permitted in the discharge of his duties under this chapter shall be defended by the Town attorney until the final determination of the proceedings therein. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.040 Separability. If any section, sub-section, sentence, clause, phrase or portion of this ordinance shall for any reason be held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereunder. (Ord. 2007-07, pt. S1, May 8, 2007)

8.30.050 Prior Ordinances. All ordinances and/or parts of ordinances in conflict herewith are hereby repealed. (Ord. 2007-07, pt. S1, May 8, 2007)